THE HERPETOLOGICAL COLLECTION OF MAXIMILIAN, PRINCE OF WIED (1782–1867), WITH SPECIAL REFERENCE TO BRAZILIAN MATERIALS

PAULO E. VANZOLINI†

Division of Vertebrate Zoology (Herpetology)
American Museum of Natural History
and Museu de Zoologia da Universidade
de São Paulo
Deceased April 28, 2013

CHARLES W. MYERS

Division of Vertebrate Zoology (Herpetology)
American Museum of Natural History

BULLETIN OF THE AMERICAN MUSEUM OF NATURAL HISTORY
Number 395, 155 pp., 85 figures, 6 tables
Issued June 26, 2015

Copyright © American Museum of Natural History 2015 ISSN 0003-0090

Prinz Maximilian zu Wied (1782–1867), with a Botocudo Indian named Quäck (?–1833). In addition to his broad command of vertebrate zoology, Prince Max had a keen interest in native Americans and their languages His pioneering work on the Brazilian Botocudos was classic ethnology and his later work called attention to vanishing North American tribes. Portrait shows the 35-year-old decorated exmilitary man in the prime of life, after fighting in the Napoleonic Wars followed by two years of rugged exploration in tropical forest. (Oil on canvas by Johann Heinrich Richter, 1828, courtesy of Brazilian Library of Robert Bosch GmbH, Stuttgart.)

CONTENTS

Abstract . . . 6
Preface . . . 6
Prince Maximilian's Life . . . 8
The Brazilian Expedition, 1815–1817 . . . 10
The North American Expedition, 1832–1834 . . . 15
Permutations of the Prince's Name . . . 17
Prince Maximilian's Herpetological Publications . . . 19
The Maximilian Collections at AMNH . . . 23
Procedure of Study . . . 25
Measurements . . . 25
Scutellation . . . 26
The *Abbildungen* Plates . . . 27
About New Species, Type Specimens, and Type Localities . . . 27
Method of Presentation Summarized . . . 28
Species Accounts: Reptiles . . . 28
Caretta esculenta Merrem . . . 28
Caretta imbricata, Merrem . . . 28
Caretta cephalo Merrem . . . 29
Sphargis mercurialis Merrem . . . 29
Emys depressa (Wied) . . . 29
Emys radiolata Mikan . . . 29
Testudo tabulata, Linnaeus . . . 29
Crocodilus sclerops Schneider . . . 30
Gekko incanescens Wied . . . 30
Gekko armatus Wied . . . 30
Anolis gracilis Wied . . . 30
Anolis viridis Wied . . . 31
J. [*Iguana*] *sapidissima* Merrem . . . 31
Polychrus marmoratus Merrem . . . 31
Agama picta Wied . . . 31
Agama catenata Wied . . . 37
Tropidurus torquatus (Wied) . . . 38
Teius monitor, Merrem . . . 39
Teius ameiva, Merrem . . . 39
Teius cyanomelas Wied . . . 39
Lacerta striata Daudin . . . 40
Scincus sloanei Daudin . . . 40
Scincus striatus Daudin . . . 40
Gymnophthalmus quadrilineatus, Merrem . . . 40
Boa constrictor Linnaeus . . . 41
Boa cenchria Linnaeus . . . 41
Boa aquatica Wied . . . 41
Scytale coronata, Merrem . . . 42
Coluber poecilostoma Wied . . . 44
Coluber liocercus Wied . . . 44
Coluber variabilis Kuhlii Wied . . . 44
Coluber nattereri Mikan . . . 47
Coluber bicarinatus Wied . . . 47
Coluber pyrrhopogon Wied . . . 48

Coluber laevicollis Wied 48
Coluber carinicaudus Wied 48
Coluber lichtensteinii Wied 48
Coluber plumbeus Wied 52
Coluber chrysogaster Wied 53
Coluber testaceus Wied 53
Coluber acuminatus Wied 54
Coluber modestus Wied 54
Coluber undulatus Wied 54
Coluber merremii Wied 54
Coluber collaris Wied 54
Coluber marginatus Wied 55
Coluber dictyodes Wied 55
Coluber pileatus Wied 55
Coluber herbeus Wied 57
Coluber rabdocephalus Wied 57
Coluber saurocephalus Wied 57
Coluber doliatus, Merrem 59
Coluber poecilogyrus Wied 59
Coluber erythrogaster Wied 60
Coluber formosus Wied 61
Coluber venustissimus Wied 61
Dipsas cenchoa (Linnaeus) 61
Elaps corallinus Wied 61
Elaps marcgravii Wied 62
Crotalus horridus, Daudin 63
Lachesis rhombeata Wied 63
Cophias jararaca Wied 65
Cophias bilineatus Wied 65
Cophias holosericeus Wied 66
Typhlops leucogaster Wied 67
Amphisbaena punctata Wied 68
Amphisbaena flavescens Wied 68
Species Accounts: Amphibians 69
Caecilia lumbricoides Daudin 69
Hyla faber Wied 70
Hyla punctata Wied 70
Hyla crepitans Wied 72
Hyla elegans Wied 72
Hyla aurata Wied 74
Hyla infulata Wied 74
Hyla luteola Wied 75
Sapo marinheiro (unknown species) 75
Rana pacybrachion Wied 75
Rana pachypus Spix 76
Rana macrocephala Wied 76
Rana sibilatrix Wied 76
Bufo agua, Daudin 77
Bufo bimaculatus Wied 77
Bufo fuliginosus Wied 78
Bufo crucifer Wied 78
Bufo ornatus Spix 78
Bufo cinctus Wied 78

Ceratophrys varius Wied 79
Ceratophrys dorsata Wied 79
Ceratophrys boiei Wied 79
Taxonomic Summary of the Maximilian Collection 79
Species Collected by Prince Maximilian 79
Primary Type Specimens Still Extant 80
Nomenclatural Update 80
Acknowledgments 82
Appendix 1: The 1860 Manuscript Catalog *(Verzeichniss der Reptilien-Sammlung nach Duméril, Bibron, und Jan)* 84
Appendix 2: Gazetteer of Wied's Herpetological Localities 88
Biographical Sources 89
References 89
The *Abbildungen* Plates 99

ABSTRACT

Prince Maximilian of Wied made important collections of reptiles and other vertebrate animals during pioneering expeditions to Brazil and North America. These were purchased for the American Museum in 1869. The present paper emphasizes Brazilian materials collected in 1815–1817.

Prince Maximilian (aka Wied, Neuwied, and Prince Max) published extensively on this collection, especially in the *Beiträge zur Naturgeschichte von Brasilien* ("Contributions to the natural history of Brazil, 1825–1833")—a meticulous account of the species collected—and in *Abbildungen zur Naturgeschichte Brasiliens* ("Illustrations of the natural history of Brazil, 1822–1832").

The unnumbered folio plates of the *Abbildungen* are so important, and so difficult to access, that the herpetological ones are resized and reprinted herein. These hand-colored plates are rare (only 300 of each were produced) and are reproduced herein "as is" with *arbitrary* plate numbers 1–56; this numbering approximates the organization of the present work and also the order of species presentation in volume 1 of the *Beiträge*.

When received at AMNH, the herpetological specimens were accompanied by the Prince's handwritten manuscript list, dated 1860, with 441 numbered items. The list is *not* a specimen catalog but a useful index to the collection, as indicated by its title: *Verzeichniss der Reptilien-Sammlung nach Duméril, Bibron, und Jan.* It includes separately numbered lists of genera and of species in the collections and therefore corresponds to taxa, not to actual specimens.

Wied did not designate types, a concept not yet established; Wied, types, like Linnaean types, must be identified retrospectively. Our objective has been to identify the surviving types of Brazilian reptiles and amphibians in the Maximilian collection. Our starting point was forcibly the *Beiträge,* a work of singularly modern conformation. It may contain for each species a synonymy, a description, measurements, meristic data, and a discussion of distribution.

The criteria for decision on the identification of types were fourfold: the description, the measurements, the scale counts, and the *Abbildungen* plates. A total of 21 primary type specimens were thus identified in the Wied collection (including some originally identified as types or cotypes). These include 15 holotypes (mostly newly identified) and six lectotypes (mostly newly designated).

However, Wied had named about 61 species from his Brazilian collection, so approximately 40 primary type specimens of reptiles and amphibians are missing. Most of these never reached the American Museum; many had disappeared in Europe before Maximilian had started writing his 1860 manuscript catalogue. Wied wrote that he had been unable to preserve several specimens; some of the others may be in European museums or possibly in the remaining collection of his friend Blasius Merrem at the University of Marburg.

PREFACE

The vertebrate collections of Prince Maximilian of Wied were acquired for the American Museum of Natural History in 1869—the year of the museum's charter. It would be another 40 years before a Museum department could be organized to care for the herpetological part of theprince's collection; although the collection was maintained, important curatorial work was not done prior to the explosive growth of taxonomic herpetology in the early 20th century. By then, the location of the Prince's collection was known and workers had started to seek out type specimens, often with little or no success. In 1939, former AMNH curator Karl P. Schmidt (1890–1957) wrote from the Field Museum, "It has always been an exasperation to me that the American Museum did not mark the Maximilian types. It is something I thought of doing when I was there, but did not get at in time" (Schmidt to C.M. Bogert, May 24, 1939). Finally, nearly a century after the Museum's founding, Brazilian herpetologist Alphonse R. Hoge (1912–1982) volunteered an initial survey of the Maximilian collection during the summer of 1963 and documented the existence of most extant types—not a simple task since Prince Maximilian (aka "Wied," "Neuwied," and Prince Max) did not designate types. The concept had yet to be established—Wied types, like Linnaean types, must be discovered retrospectively based on the literature.

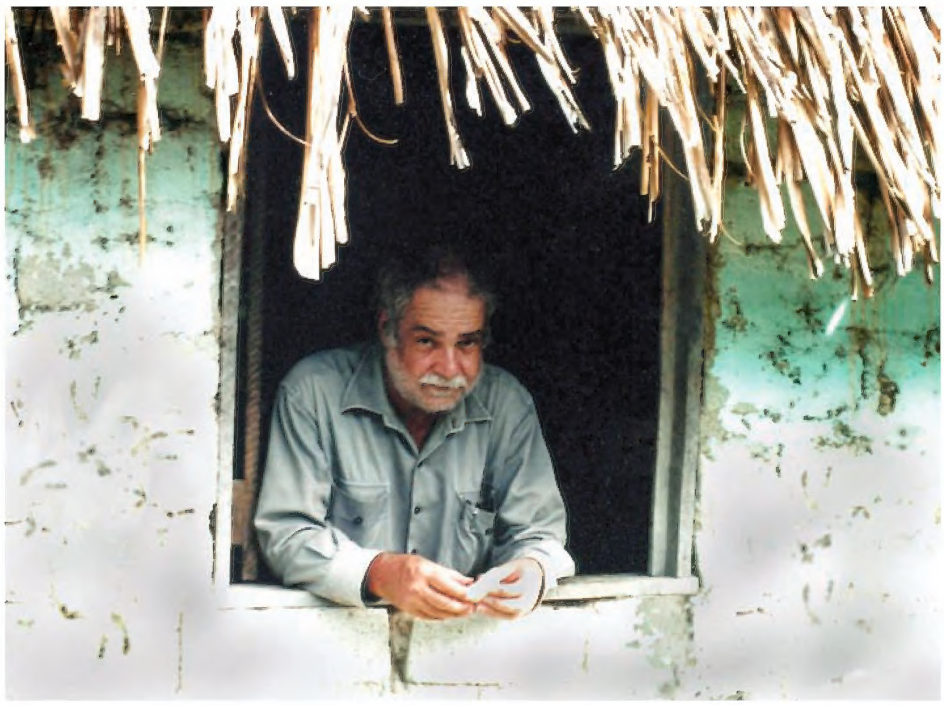


Fig. 1. Paulo E. Vanzolini. On Serra Tapequém (a tepui remnant), Roraima, NE Brazil (July 14, 1987, C.W.M.).

The Maximilian collection is the cornerstone of the Herpetology Department and I [Myers] wanted as complete an understanding as possible. With that in mind, I wrote to Paulo Vanzolini in October 1993, explaining that Prince Maximilian's collection would be moved out of the general collection, to shelving in the type specimen room, and available as a unit for the first time. Would he be interested in an invitation to come study the collection? He did come for a visit the following year, when he conceptualized the format of the present paper. He realized that dates of publication of the many names introduced by Wied could be easily triangulated if all of Wied's works and normal publication outlets were cited in a kind of synonymy at the beginning of each account; these should be simply abbreviated to cut down on clutter (i.e., *Reise* 1, *Reise* 2, *Abbildungen, Beiträge*, *Isis*, *Nova Acta*). Surmising that Wied did not use the English system of measurements, Vanzolini used regression analysis to calculate a conversion factor for Wied's published measurements.

A Vanzolini-Myers manuscript was produced for *American Museum Novitates* but never submitted, because it was delayed both by our fieldwork and by particularly vexing taxonomic problems encountered in the Maximilian collection, some only recently resolved. Examples: the status of names authored in parallel by Prince Maximilian and his friend Prof. Heinrich Schinz at the University of Zurich (see Myers et al., 2011); another pocket of confusion associated itself with AMNH cataloging errors attached to Wied's specimens of *Xenodon* (Myers and McDowell, 2014: 83–92).

Thus, the present paper has been long in the making. But songwriter Vanzolini enjoyed his working vacation in New York, spending spare time with students and visiting some of the musical haunts of his student days. I challenged him either to remember or to find anew a really good Brazilian restaurant so that my family could take him to dinner. He impishly met the challenge by asking advice from the scientific attaché to the Brazilian embassy, whom he then invited along at my expense. But indeed

it *was* a good restaurant! The three men drank too much, my wife (the designated driver) was amused, and our young children were enthralled by Vanzo. When he had stepped away, the attaché whispered to our table that "In Brazil, Dr. Vanzolini is considered to be 'the *soul* of São Paulo'; his songs are heard everywhere!" The following day, Vanzo breezed into his American Museum headquarters and proclaimed that "The embassy is ours, we should plan some fieldwork!" And so we did.

PRINCE MAXIMILIAN'S LIFE

> *In ferne Regionen versetzten uns die Zeichnungen zu des Prinzen von Neuwied Durchlaucht brasilianischer Reise: das Wundersame der Gegenstände shine mit der künstlerischen Darstellung zu wetteifern.*
>
> "The Brazilian travel drawings of his Serene Highness the Prince of Neuwied take us to distant places. The wonderfulness of the subjects competes with the artistic presentation."
>
> —Goethe (in a review circa 1821)

Maximilian Alexander Philipp, Prince of Wied-Neuwied, born in 1782 and deceased in 1867, was a military man with a strong scientific inclination. He began a vocational career in Natural History and briefly studied in Göttingen under the famous anatomist and naturalist Johann Friedrich Blumenbach (1752–1840), with whom he maintained a lasting correspondence. The prince was especially influenced by the South American travels and writings of his older friend and mentor Alexander von Humboldt (1769–1859), who also had studied under Blumenbach. Because of the stimulus of Blumenbach and, especially von Humboldt, Maximilian planned an expedition to Brazil, but he would be 35-years of age before he could manage that.

His parents were Friedrich Karl Graf [Count] zu Wied-Neuwied (1741–1809) and Gräfin [Countess] Marie Luise Wilhelmine zu Sayn-Wittgenstein-Berleburg (1747–1823). They had 10 children, of whom the eighth was born *Maximilian Alexander Philipp Graf zu Wied-Neuwied* on September 23, 1782. The young Count became Prince at age 2, when his grandfather (Johann Friedrich Alexander Graf zu Wied-Neuwied [1706–1791]) was raised or knighted from the rank of count to the hereditary princely rank of *Fürst*. The House of Wied had become a principality.

The following list showing Prince Maximilian and all his brothers and sisters is from the family genealogy provided through the Fuerstlich Wiedisches Archiv in Neuwied.[1]

Prinz Klemens Karl Friedrich Ludwig Wilhelm (1769–1800)
Prinzessin Maria Karoline Christiana (1771–1803)
Prinzessin Luise Philippine Charlotte (1773–1864)
Prinz Christian Friedrich (1775–1800)
Prinzessin Antoinette Charlotte Viktoria (1776–1777)
Fürst Johann Karl August zu Wied (1779–1836)
Prinz Ludwig Georg (1780–1781)
Prinz Maximilian Alexander Philipp (1782–1867)
Prinz Heinrich Viktor (1783–1812)
Prinz Karl Emil Friedrich Heinrich (1785–1864)

Maximilian's brother Ludwig and sister Antoinette died in infancy. Older brother Christian Friedrich was killed fighting in Bavaria as captain in the army of Austria, and younger brother Heinrich Viktor was killed 12 years later fighting against Napoleon as an officer on the staff of the Duke of Wellington. Maximilian seems to have been especially close to a sister (Princess Luise) and his youngest brother (Prince Karl, a painter). Their mother was said to be a commanding personality and is believed to have influenced and encouraged their interests in art and natural history. Both Karl and Luise studied at the Dresden Academy of Art. This early atmosphere was not lost on Maximilian—he was to become a competent colorist and painter of natural history subjects (Röder, 1955).

The foundation of Maximilian's education may also have been laid by his tutor, a lieutenant [or "captain"] Hoffmann; the

[1] A few errors concerning Prince Maximilian's name and family found their way into 20th century literature. *The Dictionary of Scientific Biography* (Thomas, 1976: 328) said that he was the "second son of Prince Friedrich Karl"; Röder (1955: 328) mentioned a brother "Charles" (probably meaning younger brother Karl). And some sources have turned his given names around as though Maximilian were a kind of surname: "Alexander Philipp Maximilian" (e.g., *The Dictionary of Scientific Biography* above and *Encyclopædia Britannica* online; see also Permutations of the Prince's Name following).

young prince became a hunter and began a collection of flora and fauna during time spent with his tutor in the Wied preserves in the Westerwald. Subsequently, Maximilian studied for a brief period in Göttingen, with the anatomist and anthropologist Johann Friedrich Blumenbach, who fathered physical anthropology at the University of Göttingen. Blumenbach (1752–1840), best remembered for his classification of humans into five "races," sparked Maximilian's interest in native peoples and ethnology.

Maximilian's grandfather, the first Fürst zu Wied-Neuwied, died in 1791. His father, Fürst Friedrich Karl abdicated in 1802 in favor of Maximilian's oldest living brother Johann Karl August. Fürst Johann's lineage includes a granddaughter—Princess Elisabeth (1843–1916), who became Queen of Romania and a noted poetess under the pseudonym "Carmen Sylva"—and a great grandson, Prinz Wilhelm zu Wied (1876–1945), who in 1914, near the start of World War I, briefly became King of Albania.

The short-reigned king's oldest son, Erbprinz (the next in line) von Albanien, was Prinz Karl Viktor zu Wied (1913–1973)—Maximilian's great-great-grandnephew and important to us as having played a role in the 20th century revival of interest in Prince Maximilian and the Wied archives. Prince Karl Viktor wrote in 1954 that

> The political background of [Prince Maximilian's] life covered one of the stormiest and most momentous epochs in the history of modern Europe. The French Revolution, the subsequent revolutionary wars, the Napoleonic era, the wars of liberation, the upheavals of 1830 and 1848, and the Prussian-Austrian conflict were its outstanding events. The mediatization of the previously immediate rulers, the Rhenish Confederation, the Stein-Hardenberg reforms, the consolidation of Prussia's hegemony, and the establishment of the North German Confederation were the landmarks of domestic policy. [translation, 1969]

Maximilian was initially commissioned as lieutenant in the imperial Austrian armed forces, but he was drawn more to Prussia and was promised a commission by the king. As explained by Karl Viktor zu Wied (1954; translation 1969: 13–14):

> In 1802 Prince Maximilian entered the Prussian Army as an officer [captain in the regiment of the king]. (The members of imperial-immediate families were not subject to military service for any state belonging to the German Confederation. If they wished to serve in the military, they could choose whatever territorial army they wished.) The [Holy Roman] Empire existed only in name by that time, and there had been no Imperial Army since the days of Frederic the Great...Maximilian fought in the battles of Jena and Auerstädt and was taken prisoner [at Prenslau in northeastern Germany, site of the Prussian surrender to the French in 1806], but was soon exchanged.
>
> He spent the succeeding years [until 1813] in Neuwied, taking long trips through Europe whenever circumstances permitted.... The principal event of that time was his first meeting with Alexander von Humboldt, who had returned in 1804 from his long voyage to Central and South America [but who had been denied entry into Brazil]. This encounter had a profound effect upon Maximilian. There can be no doubt that his predominant interest in the Americas was due to the influence of the celebrated older scientist, who remained his model, friend, and mentor. From this time on an expedition overseas must have been the young prince's most ardent wish and fixed desire, though the prevailing political constellation, the Continental Blockage in particular, made any realization of such plans unthinkable for years.[2]

Following the outbreak of the 1813–1814 Wars of Liberation, Prince Maximilian returned to battle as a major in the Third Prussian-Brandenburg Regiment of Hussars. Schach (1995: 158–159) concisely summarized Maximilian's service in the Prussian cavalry:

> He engaged in 12 battles. For distinction in the battles of La Chaussee and Chateau Thierry the prince was awarded the Order of the Iron Cross second class. On 31 March 1814, the day after his last battle, Maximilian entered Paris with

[2] It would be 11 years before the prince was able to realize his dream of emulating his mentor von Humboldt by making an overseas expedition. "It is believed that von Humboldt encouraged Maximilian to explore Brazil, where he himself had not been permitted to enter. Thus, the prince's observations would supplement his own Latin-American findings" (Schach, 1995: 156). The politics were eventually alluded to in an 1893 news note in *Science*: Authorities had been instructed that if "a certain Baron Humboldt" appeared "he should be conveyed, with all his companions, to the capital...[for purposes of] impeding his means of transportation and the making of political and philosophic observations" (Anonymous, 1893).

> the victorious allies. It was on this occasion that he and Alexander von Humboldt met for the second time.

Prince Maximilian made haste to start his Brazilian travel plans as soon as possible in 1814 following the Treaty of Paris.[3] During these preparations "he was in constant correspondence with Blumenbach" (Schach, 1995: 159). Turning back to the narrative of Prince Karl Viktor,

> Prince Carl (Karl) traveled to the Congress of Vienna[4] while Maximilian worked energetically at the realization of his great plan. He actually succeeded in completing all preparations within a remarkably short period of time. By the time war broke out again in Europe [following Napoleon's return in the spring of 1815] he was already in Brazil. His extant letters, written to his mother and the other children, show that he was deeply interested, even from afar, in what was happening in Europe. The news of Napoleon's final defeat at Waterloo reached him in the Brazilian jungle many months later. He wanted more details...whether his regiment had fought in the decisive battle, whether its losses had been high....

Maximilian's heart may have been with his old comrades, but the soldier had left the field. His military discipline, his genius for organization, and his courage were to be put to new purpose in new lands.

The Brazilian Expedition, 1815–1817

Finally free to pursue new adventures, the Prince left London in May 1815, "With two servants, his brother's huntsman (David Dreidoppel) and the family gardener—both of them on loan from the house of Wied—he sailed via London to Rio de Janeiro in 72 days...[arriving] on 16 July 1815" (Schach, 1995: 159).

Once in Rio the Prince started with arrangements for his expedition, after first taking stock of the local military:

> There is a numerous military establishment at Rio. The difference between the troops brought from Portugal, who fought under Wellington in Spain, and those raised in Brazil, is very remarkable. The former present a military appearance, but the latter, on the contrary, are enfeebled by the heat of the climate....
>
> My letters of introduction procured me the kindest reception in many families at Rio. I cannot forbear mentioning, with the strongest gratitude, the favours I received from the Swedish Consul-General Westin, the Russian Consul Von Langsdorff, the English Chargé d'Affaires Chamberlain, and the Russian Chargé d'Affaires Swertzkoff. My countryman Engineer Major Feldner, overwhelmed me with proofs of his friendship; he formed several agreeable traveling parties, which enabled me to observe the country in the vicinity of Rio. On one of these interesting journeys I made my first acquaintance with the aborigines of Brazil....
>
> I should have been very well pleased to have made a longer stay at Rio, but that would have been contrary to the plan I had laid down, for the riches of nature are not to be found in cities, but in fields and forests. Through the liberal spirit of the government, aided by the friendly attentions of the Minister Conde da Barca, I was enabled speedily to make every necessary arrangement for my journey, I received a passport and letters of recommendation to the different Captains General. The civil and military authorities were directed to give us every assistance, to forward our collections to Rio, and, if we required it, to supply us with beasts of burden, attendants, and escorts of soldiers. Two young Germans, MM. Sellow and Freyreiss, who were familiar with the language and manners of the country, joined me in the enterprise of exploring the eastern coast towards *Caravellas*. We procured sixteen mules, each of which carried two wooden chests, secured against rain and moisture by coverings of raw ox hides; and, having engaged 10 men to take care of our cattle, and to assist in hunting, we proceeded on our journey, well armed, supplied with sufficient ammunition, and provided with everything requisite for collecting objects of natural history....

[3] After the defeat of Napoleon I, the Treaty of Paris of May 30, 1814, was concluded between France on one side and Austria, Great Britain, Prussia, and Russia on the other. A second treaty of November 20, 1815, would be signed following Napoleon's return and final defeat at Waterloo, by which time Prince Maximilian was in Brazil.

[4] The Congress of Vienna was convened September 1814–June 1815 in order to redraw the political and territorial structure of Europe following the downfall of Napoleon I. See Kissinger (1957) for one modern analysis.

Fig. 2. Pen-and-watercolor sketches dated 1815 and attributed to Prince Maximilian. *Top*: *Gesamtansicht der Expedition* ("General View of the expedition"), showing pack mules, handlers, and military guard. *Bottom: Prinz Maximilian mit Teilnehmern seiner Expedition* ("Prince Max with members of his expedition"). From Bosch, 1991: 84–85. (Courtesy of Brazilian Library of Robert Bosch GmbH, Stuttgart)

> To be secure from theft in these inhabited countries, we divided ourselves into watches for the night. My German hounds were of great service to me, in this respect, for, at the least noise, they ran, with loud barkings, to the spot from whence the noise proceeded. (Wied, 1820b: 11, 15–16).

Prince Maximilian mounted his Brazilian expedition a few years before the invention of photography, but he kept a pictorial record through his artwork, which ranged from simple subjects such as seen in figure 2, to complex jungle scenes with wildlife and people, as in the books that he would soon publish (Wied, 1820a, 1820b, 1820–1821). One important fact deserves mention in connection with his publications on Brazil. Except for a few sketches by the scientist Sellow, who accompanied the expedition for a short time, all the original South American drawings were done by Maximilian himself (Karl Victor zu Wied, 1954b: op. cit.).

His expedition would follow the Atlantic coast to the north of Rio de Janeiro until Ilhéus in Bahia, where he would turn inland and reach the semiarid formations of Bahia and Minas Gerais—not to return to Europe until 1817.

Once north of Río de Janeiro, Portuguese settlement thinned out and travelled routes often skirted areas of true wilderness, which attracted the prince. He had arranged for quartering of his pack animals and shifted to river travel, where he learned first hand that the lowland tropics can be uncomfortably chilly (or "damp") at night.

> The night was very warm and fine, but, as usual in hot countries, extremely damp. The voices of many birds ... are heard only at dusk, when they animate these vast and awful solitudes. ... Our hardy half-naked Indian boatmen immediately lay down without covering, and some of them at a distance from the fire on the damp ground, and slept very soundly. We, on the contrary, wrapped ourselves in our thick blankets, on a bed made of brushwood and cocoa-leaves.

The next day would see the prince make a choice for an extended camp under nearly ideal conditions—at the establishment of a new *fazenda*[5] in virtual wilderness.... It was about a quarter of a league up the Lago d'Arara that the *ouvidor* had just begun to found the establishment of the minister at Morro d'Arara; timber had already been felled, and some huts built. The *ouvidor* received us politely, and I immediately made arrangements for remaining some months in this solitary wilderness. And, although there might be few Europeans, native Indians were likely to be encountered. Great caution would be required until contact had been made and friendly relationships established.

> The place chosen for the fazenda and sawmill ... lies about a day and a half's journey up the Mucuri, and is named Morro d'Arara from the number of macaws (araras) found there.... we reached, on the north bank of the Mucuri, the entrance of a narrow, shady channel, about 10 or 12 paces in breadth. [Entrance had been impassable but had been cleared a few days before by command of the *ouvidor*, and the bushes cut away.] To form some idea of our mode of life at Morro d'Arara, conceive a wilderness in which a company of men forms a solitary outpost. Sufficiently provided by nature with the necessaries of life, in abundance of game, fish, and good water; but at the same time, by its distance from inhabited places, entirely confined to its own resources, and obliged to be constantly on its guard against the savage natives of the forest, by whom it is in every side surrounded. Patachos, and perhaps Botocudos, prowled about us daily, to watch our motions; for this reason we all went constantly armed; we numbered between 50 and 60 able-bodied men. The wood on the side of a mountain, on the bank of the *lagoa*, had already been felled....

WORK AT MORRO D'ARARA: Prince Maximilian was intensely curious about all aspects of natural history and seemed to emit encyclopedic knowledge. His writing is disjointed as he jumps from one topic to another, as seen in the following passages from *Travels in Brazil* (English version, 1820), but this style of travel writing was popular in the 1820s:

> The *ouvidor* had caused five or six huts to be built near the *lagoa*, the roofs of which were covered with uricanna leaves. Four of our Indians, who, like most of their countrymen, were very good hunters, and still better fishermen and boatmen, were sent out every morning for the whole day, to fish, hunt, and examine our *mundeos* or traps for animals, and they always brought home in the evening, game and abundance of fish, ... As soon as all our people were collected together in the evening, we had no cause to fear an open attack of the savages. Against a surprise by night, which they do not readily attempt in dark, but preferably in moonlight, nights, we were secured by the vigilance of our dogs.
>
> The Patachos, from their dark lurking places, doubtless observed us, not without wonder and dissatisfaction, and our hunters had need of great caution not to approach them unguardedly. We often heard these savages imitate the notes of the owls (*curuja*), of the *capoeira*, and other animals, especially the night-birds; but our Indians, who were equally skilled in this art, never failed to distinguish the imitation from nature. A person not acquainted with it, would perhaps have attempted to follow the call of the bird, when the arrows of the savages would have shewn him his mistake. When our people danced the baduca by moonlight, and played the guitar to it, which is always accompanied by clapping of hands; this clapping was repeated by the savages on the other side of the *lagoa*.
>
> [One of my Indians] came too close to a *jararaca* [see plate 46] five feet long, which lay hid among the dry leaves: it raised itself up, shewed its formidable teeth, and was going to bite at him, when I killed it by a fortunate shot, and saved the terrified hunter. The Indians, and even the Portuguese hunters, always go barefooted to the chace; shoes and stockings being in this country dear articles for the countryman, and therefore used only on holidays.

[5] Nowadays a "farm," but, in the colonial period (Wied's time), in northeastern Brazil usually a coffee plantation.

Some days afterwards I obtained another, quite harmless, but remarkably beautiful serpent [*Coluber formosus*, see plate 37], in the skin of which vermilion, black, and greenish rings, alternate; it has some resemblance in figure to the coral serpent (*cobra coraes*), but is very different from it.

While the workmen were building the huts, the woodmen cleared the spot where it was proposed to erect the saw-mill. The *ouvidor* left us, and went for some time with many of his people to Caravellas; our company was consequently much diminished, but we soon received a large accession of numbers. Captain Bento Lourenzo had carried the new road so far with his Mineiros, that he had nearly approached our solitude. The *Picadores* (people who go before and mark upon the trees the direction which the woodmen are to pursue) arrived a day earlier, and announced the coming of their company. The following evening the captain arrived with eighty or ninety men, and took up his quarters with us. A great number of people was now collected within this small compass: the sounds of the guitar, the song, and the dance (*baduca*), were heard till late in the night; large fires illumined the surrounding abates and the dark forests, and tinged with their red glare the broad surface of the *lagoa*.

The various races of men whom [Captain Lourenzo[6]] had together in his troop, gave to our train a very picturesque and original appearance. Besides us Germans and Portuguese, there were in our company negroes, creoles, mulattos, mamelukes, Indians of the coast, a Botocudo, a Malali, some Maconis, and Capuchos, all soldiers from Minas Geraës.

Besides the supplies for our kitchen, our hunting excursions furnished me with materials for researches in natural history, and thus the time passed very quickly in this solitude.

After an absence of about three weeks the *ouvidor* returned with some boats and many people. He brought us the melancholy news, that the savages had on the 28th of February murdered five men, women, and children, about a league from Villa do Port Allegre, on Captain Bento Lourenzo's new road. Some other persons, who on perceiving the large compact body of the savages had quickly thrown themselves into a thicket, were fortunate enough to escape. A man from Mucuri, who was at work on his plantations in the woods near the spot, had heard the lamentable cries of the unhappy victims; he and a young man, his son, had immediately taken their guns and hastened to the aid of the sufferers; but before they reached the scene of the murder, the father discharged his piece, on which the savages immediately fled. They found the murdered persons weltering in their blood, without any sign of life, pierced with many arrows, and covered with numerous small wounds inflicted with the points of arrows: a child, which had hid itself behind a bush, had escaped unnoticed, and gave an account of the particulars of the mournful event. As the savages did not retire after this outrage, but still hovered about the plantations of Mucuri, these were abandoned by the owners, who all sought refuge in the town. The *ouvidor* had immediately given orders for an expedition and collected armed people for the purpose from St. Matthew's, Villa Verde, Porte Seguro and other places, after which he himself returned to Morro d'Arara. ... The *ouvidor* left Morro d'Arara on the 9th, and returned to the town; he took away with him such people and arms as he most wanted, in order to employ them against the savages; but the expedition availed nothing, for the wary Tapuyas were not to be found. ... I was now left, with the steward of the fazenda, my two German attendants, five negroes, and six or seven Indians, who were slowly to continue the work.

The month of March had now arrived, and with it the beginning of the cold season, which here sets in with abundance of rain. We had often great heat in the morning, and towards noon violent thunder-storms, which occasionally lasted one or two days, and poured down torrents of rain. In such weather our solitary abode in the little and gloomy valley in the forest, was extremely dreary: vapours rose like thick clouds from the damp woods, and enveloped us so, that we could scarcely see the opposite thicket though so near us. This changeable and damp weather caused many diseases; fevers and head-ache were frequent, and even the native Indians were not exempt from them, so that it was necessary to send several of them to the town. We foreigners suffered particularly; we were destitute of the requisite medicines, especially Peruvian bark, which is absolutely indispensable for travellers in these hot climates.

The fever had also attained the highest degree of violence among the company of Captain Lourenzo; he was himself extremely ill and

[6] Captain Lourenzo is central in the cover sketch of this bulletin. He was in charge of surveying and putting in a road or path through nearby forest. He also took up arms when Tapuya Indians had massacred local settlers.

> enfeebled. From lying on the damp ground in the woods, from the want of strong liquors, having no other drink than water, and from the entire want of proper medicines, many of his people were so reduced that he was likewise obliged to send them to the town. He himself repaired to Morro d'Arara, where we took care of him for some time, and sent him away in some degree recovered. For my part, when I perceived that the fever would not leave me, I had recourse to the Peruvian bark, which I had found here growing on the Mucuri.

SUMMARY: Wied's party had a long encampment at Morro d'Arara (Feb. 5—July we, 1816), which is the type locality for *Anolis viridis*, *Agama picta*, *Coluber formosus*, and *Rana macrocephala*. See color plates for most. It was time well spent except that the prince had been unable to further his interest in ethnology (made difficult because the Tapuya Indians were massacring people).

Maximilian was the first to explore scientifically this area of the Atlantic Forest, the densely forested facade of Brazil between the latitudes of 7° and 30° south. In a study of the prince's mammal specimens, Avila-Pires (1965: 1) noted that prior to 1808 Brazil had been closed to non-Portuguese travelers for nearly two centuries. As Avila-Pires said,

> Among the first foreign naturalists who were permitted to visit Brazil was Prince Maximilian zu Wied who explored the coastal region from Rio de Janeiro to Salvador, Bahia, and made short trips into the thorny and dry *caatingas* of Bahia and Minas Gerais in the years 1815-1817.
>
> His accurate observations are still the only source of information on the habits and distribution of a number of species of the mammals. The detailed descriptions of the regions in which he traveled and the precise records of the geographical distribution of mammals are remarkable for the time; very few professional zoologists then realized the relationship that exists between zoology and geography.

Thus, Maximilian would seem to have been astonishingly precocious in recognizing the influence of latitude—i.e., of temperature—in the distribution of Atlantic forest animals. But it is the sort of thing that he might have been on the lookout for after earlier discussions with his mentor von Humboldt—who essentially had laid the foundation for the field of biogeography but who had been denied access to Brazil.[7]

During his Brazilian expedition, Prince Maximilian became highly interested in and contributed to the studies of aboriginal cultures, while making extensive collections of plants and animals—and pen-and-water-color paintings of the same. After his return home, Maximilian published his two volume *Reise nach Brasilien in den Jahren 1815 bis 1817* (Wied, 1820-1821), which found a public eager to read of a New World whose wonders were still being explored. This was his first book title and seems to have been hugely popular. The second volume of this work emphaszes linguistics and ethnology, with the first chapter entitled *Einige Worte über die Botocudos* ("A few words about the Botocudos"). This 70-page chapter allowed the prince to be called "the first scientist to write a monograph about a Brazilian (Indian) tribe"—a classical presentation that "has remained of fundamental significance" (Ehrenreich, 1887; Baldus, 1958; Schach, 1995). Aside from its scientific and historic value, Maximilian's account of his Brazilian experience is good literature and was translated into six languages, as detailed by Bokermann (1957).

Nearly two centuries after the original work, there appeared in 2001 a beautifully done facsimile reprint of Wied's two-volume *Reise nach Brasilien.* It is especially welcomed since it was edited by Hermann Josef Roth, a Wied scholar (e.g., see Roth, 1995b, 1995c). The cost of a first edition of the *Reise* is prohibitive, but the reprint belongs in the research library and should be sought. It contains, mainly in footnotes, some new species descriptions and other early mentions of the Brazilian fauna.

Curiously, two English editions of *Travels in Brazil* appeared in 1820 from different publishers. The two are not equivalent because of different formats and sizes and because the one here-called "first edition" (1820c, London: Sir Richard Phillip & Co.)

[7] "Publication of the books on his travels earned Maximilian recognition and many honors. The one that must have pleased him most came from Alexander von Humboldt, who sent him his autographed portrait. Ever since, this portrait adorned the desk in the prince's study" (Prince Karl Victor zu Wied, 1954: 21).

had been rushed to press before sufficient copy had been received for "volume 1" (fide note at the bottom of page iv and longer note on the last page above list of "plates"). Neither translation produced a voume 2.

After returning to Europe, Prince Max subsequently devoted his time to the study and copious publication on the reptiles, amphibians, birds, and mammals of his Brazilian collections. Maximilian wrote little about daily routine in the field and certainly never dwelt on hardship. Schach (1995: 160), however, provided a second-hand glimpse: Upon returning to Europe, Maximilian was asked to publish a preliminary report on his exploration in the journal *Isis* [*Encyclopädische Zeitung von Oken*]. The editor of that journal, Lorenz Oken, was so over-whelmed by the prince's accomplishments that he affixed an addendum to the report:

> We feel obligated to add what his highness, Prince Max, did not wish to impart here: Without ceasing, 10 persons collected plants and insects, shot birds, mammals, and amphibians. Some were dried, pinned up, or pickled; others were skinned, stuffed, mounted, or preserved in alcohol. As a result the prince, who had to supervise everything, make all decisions, and record the habitat, manner of life, and sounds of the animals, determine their natural color, sex, and scientific classifications, etc., scarcely had time to catch his breath. When one considers that it rains almost constantly in Brazil, and that one therefore, before retiring for the night, must build a shelter and dry one's belongings by a fire, then one simply cannot comprehend how all these many objects and activities could be compressed into a period of two years. Furthermore, no one escaped illness. For months they were hampered by fevers, but nevertheless had to work as hard as possible. All this could be accomplished only through the firm will of the prince, through his insight into the value of natural history, and through the great sacrifice from which he consequently did not shrink. (Translation by Schach, 1995: 160).

The time was opportune and Prince Max was earning a place in history among those early naturalists—zoologists, botanists, and ethnologists—who were opening up South America. On the zoological side, "Three great expeditions stand out in the history of the zoological exploration of Brazil, in fact of South America: those of Wied, of Natterer and of Spix and Martius" (Vanzolini, 1981: xxvii). The colonial period was drawing to a close in the Western Hemisphere and the natural sciences were ascending. The Prince of Wied's mentors—Blumenbach and von Humboldt—must have been have been pleased with him.

Even while sweating in Brazil, Maximilian thought that "It would be very interesting for me to see the North American Indian tribes for the purpose of comparing them with those of Brazil and I intend therefore perhaps someday to undertake a journey there" (in Schach, 1995: 161).

The North American Expedition, 1832–1834

Upon advice from his brother and sister, Prince Maximilian hired as traveling companion the young Swiss artist Johann Karl Bodmer. This was to prove a brilliant choice, for Bodmer was a hardy, resourceful traveler who got along well with Maximilian—and this talented artist and colorist would leave an indelible history for his depictions of American Indians. The prince also brought along David Dreidoppel, his skilled hunter-taxidermist in Brazil, who presumably was again on loan from the house of Wied.

On May 17, 1832 this crew left for Boston, where after a violently tempestuous voyage on a small American brig, they arrived on July 4—Independence Day. From that day on, Maximilian was to observe American holidays and culture close up. He seems to have been especially interested in the integration of the German *Landsleute* ("country people") into American life and into the American landscape.

Wied studied hard in preparation for his American venture and by the time he arrived he was said to know more about America than most Americans; actually, he knew *much more* as will be confirmed by browsing through his North American journals (for English translations, see Wied, 1976, 2008–2012). The follow-ing skips over his extended stay in the eastern United States and picks up at the start of his western explorations.

The excerpts are from Joseph Porter's "Biographical Sketch" of Maximilian (Porter, 1984: 15, 17, 18):

> At St. Louis in the spring of 1833, Maximilian talked with trappers and traders who had been farther west. One of America's greatest explorers, General William Clark, befriended Maximilian.... Maximilian also met Major Benjamin O'Fallon, Clark's nephew. An important frontier figure, O'Fallon, an Indian agent and trader ... Clark and O'Fallon advised Maximilian to journey up the Missouri River and put him in contact with...key men of the American Fur Company....
>
> One instance aptly demonstrates the type of important assistance that Clark and O'Fallon rendered to Maximilian. William Clark had been the cartographer with the Lewis and Clark expedition years before. In 1833 O'Fallon furnished Maximilian with copies of Clark's maps of the Missouri and Yellowstone Rivers. These consisted of 39 sheets, 34 of which were tracings from Clark's originals. O'Fallon personally copied the first two sheets himself for Maximilian....
>
> Only 12 years apart in age, General Clark and Prince Maximilian symbolized two generations of western explorers. A talented, largely self-taught man who typified the American enlightenment of the confident, young republic of President Thomas Jefferson, Clark heartily encouraged Maximilian. A true product of the rough and tumble American frontier, he may have seen in this German aristocrat an explorer persistent enough to follow his own steps up the Missouri....
>
> The winter at Fort Clark permitted Maximilian the time to conduct his most significant fieldwork among the Mandan and Hidatsa as he studied their languages, cultures, and histories. Before reaching the Indians, Maximilian had already demonstrated that he could breach the cultural barriers that existed between a learned German nobleman and the turbulent frontier personalities of Jacksonian America....
>
> Prince Maximilian early gained the confidence of veteran frontier hunters and [Indians alike]. The Prince possessed the force of character combined with the empathetic nature so essential to any student of cultures. It was critical to his fieldwork that he was capable of earning the trust of individuals like Mató-Tópe, Dipäuch, and Addíh-Hiddísch, all "worthy men" who became important sources of information about their respective peoples, the Mandan and the Hidatsa. They worried about Maximilian's welfare and frequently invited him to attend their ceremonies, dances and feasts. Occasionally they exchanged gifts with him.
>
> The relationship between Maximilian and many of the Indians transcended that of scholar and informant and ripened into friendship. Some Mandans like Mató-Tópe, Síh-Chidä and Dipäuch, or Hidatsas like Péhriska-Rúhpa and Addíh-Hiddísch, a chief at Awaxawi village, willingly shared the history of his tribe, and a prominent Mandan, Dipäuch, contributed greatly to Maximilian's study of Mandan religious beliefs and material culture.... When Maximilian left Fort Clark in April 1834, he said farewell to many friends among the Mandan and Hidatsa.
>
> Remaining active for the rest of his long life, Maximilian studied, wrote, and continued to add to his faunal collections.... To the last he kept abreast of new developments in the field of natural history, including the work of Charles Darwin, whose ideas and theories forever altered the intellectual landscape so familiar to the naturalists of Maximilian's era.

As prince of the Wied royal family, Maximilian accomplished an extraordinary life—as a soldier decorated by a king and as a broadly capable zoologist, ethnologist, artist, explorer, and author. Although he raised his rifle against Napoleon and marauding Indians, he was gentle mannered and became good friends with Indians and rough Americans alike. He was welcomed and respected by General William Clark, who had helped pioneer the way before him up the Missouri River. Somehow recognizing Maximilian as a kindred explorer with potential despite his nobility, the rough-edged Clark provided maps from his own expedition and drafted some new ones. Indeed, the prince was to endure much the same kind of bitter winter and hardship faced by Lewis and Clark on their famous 28-month expedition. Maximilian of Wied was a man of consequence, whether thought of as His Serene Highness or just Prince Max.

Prince Max was not academically connected: it was only in 1853 that he was elected honorary member of the Prussian Academy in Berlin. And, "in recognition of his scientific

achievements the prince was awarded in 1840 the title of major general in the Prussian army in the Rhineland, and an honorary doctoral degree by the University of Jena in 1858" (Schach, 1995: 168).

He was born in the Neuwied castle on September 23, 1792. He died on February 3, 1867, in a simple building on the castle grounds, where he shared an upstairs floor with his younger brother, who predeceased him by three years. He never married.

Prince Maximilian's collections were kept at the family castle. Upon his death the materials were placed on sale, and bought for the American Museum of Natural History, as a nucleus to its intended collections (the story is told in the Museum's first annual report, in January 1870 [see Myers, 2000: 7], and in Allen, 1889).

Permutations of the Prince's Name

The family Wied and German scholars knowledgeable about the family might be surprised by the extent of the confusion surrounding the name of Prince Maximilian. But we, along with most of our colleagues, have long been either uncertain or else unjustifiably confident on how to most correctly deal with Maximilian's name. Was he Prince von Wied or zu Wied, *or* von or zu Wied-Neuwied? Under what name should he be listed in bibliographies—Wied, Wied-Neuwied, or Maximilian? (All are in recent use.) How does his authority attach to names of the many species described by him? Is the original name of the North American spring peeper, for example, to be given as *Hyla crucifer* Wied, or *Hyla crucifer* Wied-Neuwied? This confusion is widely reflected in bibliographic treatises and in the taxonomic literature, whether English, Portuguese, or Spanish. Myers et al. (2011) gave a very brief summation, concluding how his name should be cited for taxonomic purposes, but further discussion is warranted.

His is a name cited in diverse ways by authors and bibliographers. His name and title—Maximilian Alexander Philipp, Prinz zu Wied (*or* "Wied-Neuwied" prior to 1825)—usually is not given in full, but his given names occasionally are incorrectly rearranged (especially by American-based authors) to read "Alexander Philipp Maximilian" (e.g., Thomas, 1976: 328; Adler, 1989: 22; Schach, 1994: 8; 1995: 156; Myers, 2000: 7). Aside from this error, which we have not traced to a definite source, there are a number of permutations that bear explanation. First a sampling of citations in bibliographic catalogs:

1. Wied-Neuwied (Maximilian Alexander Philipp zu) *Prince*—British Museum *Catalogue of Books...*, 1915.
2. Wied-Neuwied, *Prince* Maximilian A.P. zu—Wood, *Literature of Vertebrate Zoology*, 1931.
3. Wied-Neuwied, Maximilian Alexander Philipp, Prinz von—Smith and Smith, *Synopsis...herpetofauna of Mexico, vol. 2, Analysis of the literature*, 1973.
4. Wied-Neuwied, Maximilian, Prinz zu—Vanzolini, *Bibliography...South American Reptiles*, 1977.
5. Wied-Neuwied, Maximilian Prinz zu—Bosch (1986), *Brasilien-Bibliothek*, 1986. (Note absence of comma after Maximilian.)
6. Wied, Maximilian, Prinz von—main catalog entries in, for example, American Museum of Natural History Library, Muséum National d'Histoire Naturelle in Paris, New York Public Library, and the Library of Congress—following explicit example in Anglo-American Cataloguing Rules (1998: 400).
7. Maximilian, Prinz zu Wied-Neuwied—Berger, *Bibliografia do Rio de Janeiro*, 1980.
8. Maximilian, Prince of Wied-Neuwied—Moraes, *Bibliographia Brasiliana*, 1983.

Systematic zoologists mostly use some form of examples 1–6 above, with the name being cited or referenced either as Wied (house or dynasty) or Wied-Neuwied (the last element being a place name). The relatively few workers (e.g., Pritchard and Trebbau, 1984) who use a form of examples 7–8 (i.e., Maximilian as a kind of surname) are supported by the authority of the distinguished bibliographer Rubens Borba de Moraes—a professor of library science and former director of the Municipal Library of São Paulo, the National Library of Brazil, the United Nations Information Center in Paris, and the United Nations Library in New York. But these final decidedly represent a minority view, and Moraes himself, it may be noted, varied usage between Maximilian and Wied-Neuwied as

surnames in his own narrative references (vs. bibliographic entries) to the Prince.[8]

Much of the variation in bibliographic citation derives from different forms of Prince Maximilian's name used in his own publications. Examples from his works cited herein:

The most minor variant involves presence or absence of a comma following Maximilian, the first name element (examples 2, 6); the comma seems not mandated and in some cases may have been editorially inserted.

In one publication, the German predicate *zu* was replaced by *von* (example 3 above) or *de* in French (example 4), although *zu* clearly has been preferred by the family for centuries.[9]

In publication, Maximilian seems to have split his usage of the nominative *Prinz* ("prince") with its dative form *Prinzen* (1, 3, 5).

But the variation that has caused the most confusion is the continued use to this day of the earlier *Wied-Neuwied* versus the later *Wied*. Up until 1824, the compound names Wied-Neuwied and Wied-Runkel distinguished two branches of the family Wied. However, the last descendent of the house of Wied-Runkel was Fürst Friedrich Ludwig, who died in 1824. Wied-Neuwied inherited the Wied-Runkel estates[10] and geographic modifiers of the Wied name were officially dropped. Prince Maximilian did not again publish under the compound name Wied-Neuwied except on the title pages of the *Abbildungen*, which covered the period 1822–1831.

His name since 1824 has been *Prince Maximilian zu Wied*, more commonly given by himself and others as *Maximilian Prinz zu Wied*. The last, to be given in citation as *Wied, Maximilian*[,[11]] *Prinz zu*, also is the proper name if the AACR conventions for library cataloging are followed (Anglo-American Cataloging Rules, 1998)—because this is the latest form of a changed name (rule 22.2C1), because the full name (including "Alexander Philipp") is not commonly found (rule 22.3A1), and because the German form of the name predominates (rule 22.3B1). And the conclusion reached by application of the aforesaid cataloging rules is in perfect agreement with those late 20th-century authors most knowledgeable about the life of Prince Maximilian and the history of the family Wied, including especially Prince Karl Viktor zu Wied (Maximilian's great-great-grandnephew), and the German scholars Joseph Röder and Hermann Josef Roth (e.g., Wied, 1954; Röder, 1952; Roth, 1995a, 1995b).[12]

Prince Maximilian was properly addressed in correspondence and speech as *Durchlaucht* ("serene highness"). He seems never to have used the compound "Wied-Neuwied" in his own signature, but from the early 1800s commonly abbreviated his name in correspondence as "Max P z Wied" (numerous examples in Bosch, 1991); a flowery, hard-to-read 1832 signature shown in Adler (1989: 22) perhaps was for new correspondence. He was known to his colleagues as Prince Max. We feel comfortable in speaking of him as either Maximilian or Wied, or (less formally but admiringly) as Prince Max.

Species names proposed by Prince Maximilian zu Wied should properly be identified with a simple "Wied" as authority, as was his own custom in his 1860 manuscript catalog. "Wied-Neuwied" is still commonly shown

[8] As an aside, South American specialists sometimes wonder why most Brazilian and Portuguese authors are listed in bibliographies by the last element of their names—a simple device in marked contrast to the treatment of Spanish authors. Borba de Moraes had a hand in this, writing that: "This rule caused a stir when we introduced it at the Municipal Library of São Paulo. It has ceased to be irritating, and has been adopted by the majority of Brazilian libraries...[although there are] authors whose names do not fit the cataloger's standards" (Moraes, 1983: xxiv).

[9] Prince Maximilian was on at least one occasion addressed as "Sr Durchlaucht Maximilian Prinz *von* Wied *zu* Neuwied (Bosch, 1991: 155). The designation *von* is basic to German nobility (although not being confined to it), whereas the less commonly used *zu* is the noble predicate of choice for the family Wied, which appears to have used it at least since the 15th century. Noble designations and titles are still used in modern Germany, although the nobility as a legal entity was terminated early in the 20th century.

[10] Runkel Castle is still the property of the house zu Wied. It is open for tourism from Good Friday through October.

[11] The comma shown in square brackets is optional and seems not to have been used by Prince Maximilian.

[12] Unfortunately the AACR did not follow its own rules when it chose Maximilian's name as an example and substituted *von* for the noble predicate *zu*. See Anglo-American Cataloging Rules (1988: 400), where "Wied, Maximilian, *Prinz von*" is one of several examples in the section "Members of royal houses entered under surname, etc." This has led to the unfortunate situation in which a rare nomenclatural variant shows as the main catalog entry in the Library of Congress and some other major libraries (see catalog example no. 6 in the second paragraph of this discussion). This should be corrected.

associated with names of species described by Maximilian, but, for the reason explained above, this form of the name had officially ceased to exist after 1824, and its continued use is unwarranted. Adler (2012: 22) has accepted the name change in the revised and expanded edition of volume 1 of *Contributions to the History of Herpetology*.

Prince Maximilian's Herpetological Publications

Brazil: Maximilian published three books and four articles on his Brazilian reptile and amphibian specimens, in the period 1820–1850; these seven are itemized below. In addition, there is an important manuscript catalog of the herpetological collection dated 1860 (appendix 1).

1. A running diary of the expedition was published in two volumes (1820, 1821), under the title *Reise nach Brasilien in den Jahren 1815 bis 1817*. This was, deservedly, a successful book, several times translated (Bokermann, 1957, has a partial list of editions and translations). We shall refer to this book, in the original edition, simply as 1820 ***Reise 1*** and 1821 ***Reise 2***. This travel diary contains two types of information of present interest. Interspersed in the text there are proposals of new species, with descriptions of varying lengths, mostly placed in footnotes. Additionally, there are precise data on localities. In 1850 Maximilian published a supplement (*Nachtrag*) to the *Reise*; it contains little of systematic importance to herpetology.

2. From 1822 to 1831, Maximilian published a series of colored plates of mammals, birds, reptiles, and amphibians, usually accompanied by a bilingual text (German and French) and collectively titled the *Abbildungen zur Naturgeschichte Brasiliens*. The plates were published in 15 Lieferungen ("issues") of six plates each.[13] *The individual plates are not numbered* and there is no apparent logic in their sequence. Some libraries (e.g., AMNH) have numbered their plates for the purposes of binding, and some authors have mistakenly cited these numbers as original.[14]

This is an extremely rare work, with only 300 copies printed of each plate (Bosch, 1991: 335); the number of existing copies in the world's libraries has not been estimated, but many sets seem to be incomplete. As explained later (see The *Abbildungen* Plates under Procedure of Study), these plates are reproduced herein with *arbitrary* plate numbers 1–56; this numbering follows the organization of the present work, which itself reflects the order of species presentation in volume 1 of the *Beiträge zur Naturgeschichte von Brasilien* (see following).

Maximilian frequently made reference in the 1825 *Beiträge* to *Abbildungen* plates that had not yet been published. Inasmuch as some of Prince Maximilian's new species names are based on the *Abbildungen* plates, their dates of publication are extremely important.

It has generally been presumed that the Lieferungen were published without explicit dates (but see below), with years of publication subsequently ascertained through the announcements in the journal *Isis* published by L. Oken.[15] Thus, the American Museum copy bears a notation that the Lieferungen were dated from this source. The British Museum (1915: 2315) catalog of books gave specific references to *Isis* for this purpose, as did Vanzolini (1977: 29) for the herpetological parts. As noted by Vanzolini, only 14 of the 15 parts appear to have been reviewed. Consequently, the generally accepted 1831 date for Lieferung 15 appears to have derived from the final title page provided for the collected issues. Two of Vanzolini's dates (for Lief. 12 and 14) are each a year later than given by the British Museum. Dates given in Smith and Smith (1973: 281) agree with those

[13] Smith and Smith (1973: 281) were in error in giving only five plates for Lieferungen 2, which contains the usual half dozen (in this case, separate plates for 3 primates, a sloth, a porcupine, and the snake *Boa aquatica*). In all, the 90 plates show 32 mammals, 5 birds, and about 70 specimens representing 59 species of amphibians and reptiles; a summary of the taxa is given in Bosch (1991: 336–338). See Summary in present paper for current status of herpetological species names used by Wied.

[14] Examples: The plate referred to as "48" by Kluge (1979: 7) has in the American Museum copy the pencilled plate number "44." And the same number "44" was used for a still-different plate by Smith et. al (1994). The latter usage unfortunately was recorded as an "original reference" in an opinion of the International Commission on Zoological Nomenclature (for details see *Coluber poecilogyrus* account).

[15] That is, the "*Isis von Oken*," which has become the accepted journal title.

in the British Museum catalog and may derive from that source, either directly or indirectly through notations in some library copy (if access were to an incomplete library copy, it would explain their mistaken claim that "livr. 2" has only five plates).

It would seem that year of publication should be easily ascertained from the title page *presumably* issued for each Lieferung of six plates, but there is a curious silence in the literature on this point. The title page for Lieferung 3 is reproduced here as figure 3—but this is the *only* such title page in the American Museum's nearly complete set of bound *Abbildungen* plates.

The *Abbildungen* have been most thoroughly studied in Bosch (1991: 334–340), where it was noted (p. 335) that the 15 Lieferungen were each issued in a cover with six plates and the accompanying descriptive text. The publication dates in Bosch precisely match those in the British Museum catalog and are accepted here. Following is the date for each Lieferung, along with the *arbitrary numbers* (used herein) for plates that contain herpetological subjects:

Lief. 1 (1822): pls. 37 and 38

Lief. 2 (1823): pl. 19

Lief. 3 (1823): pls. 10, 41, and 54

Lief. 4 (1823): has no herpetology

Lief. 5 (1824): pls. 5, 15, 43, 44, and 47

Lief. 6 (1824): pls. 9, 12, 18, and 40

Lief. 7 (1824): pls. 20, 39, 45, 49, 51, and 52

Lief. 8 (1824): pls. 26, 32, 33, 34, 46, and 50

Lief. 9 (1825): pls. 1, 2, 6, 27, and 48

Lief. 10 (1827): pls. 21, 22, 35, 36, and 55

Lief. 11 (1827): pls. 13, 14, 28, 42, and 53

Lief. 12 (1828): pls. 3, 4, and 7

Lief. 13 (1829): pls. 8, 16, 17, 30, and 56

Lief. 14 (1830): pls. 23, 24, 25, and 31

Lief. 15 (1831): pls. 11 and 29

Our abbreviated text citation for this work will be the ***Abbildungen,*** with date and Lieferung number.

3. In 1825 Maximilian published the first volume of his *Beiträge zur Naturgeschichte von Brasilien* (Wied, 1825–1833), the only one of four volumes containing new species of reptiles and amphibians. This is Maximilian's basic, fundamental work, in which all the information on each species is assembled, from the literature, from the field and from the laboratory. We shall reference it in the text of this paper simply as the ***Beiträge.***

4. The *Beiträge* was preceded in 1824 by an article in the *Isis von Oken*, volume 14, columns 661–673, entitled "Verzeichniss der Amphibien, welche im zweyten Bande der Naturgeschichte Brasiliens vom Prinz Max von Neuwied werden beschrieben werden. (Nach Merrems Versuch eines System der Amphibien)."

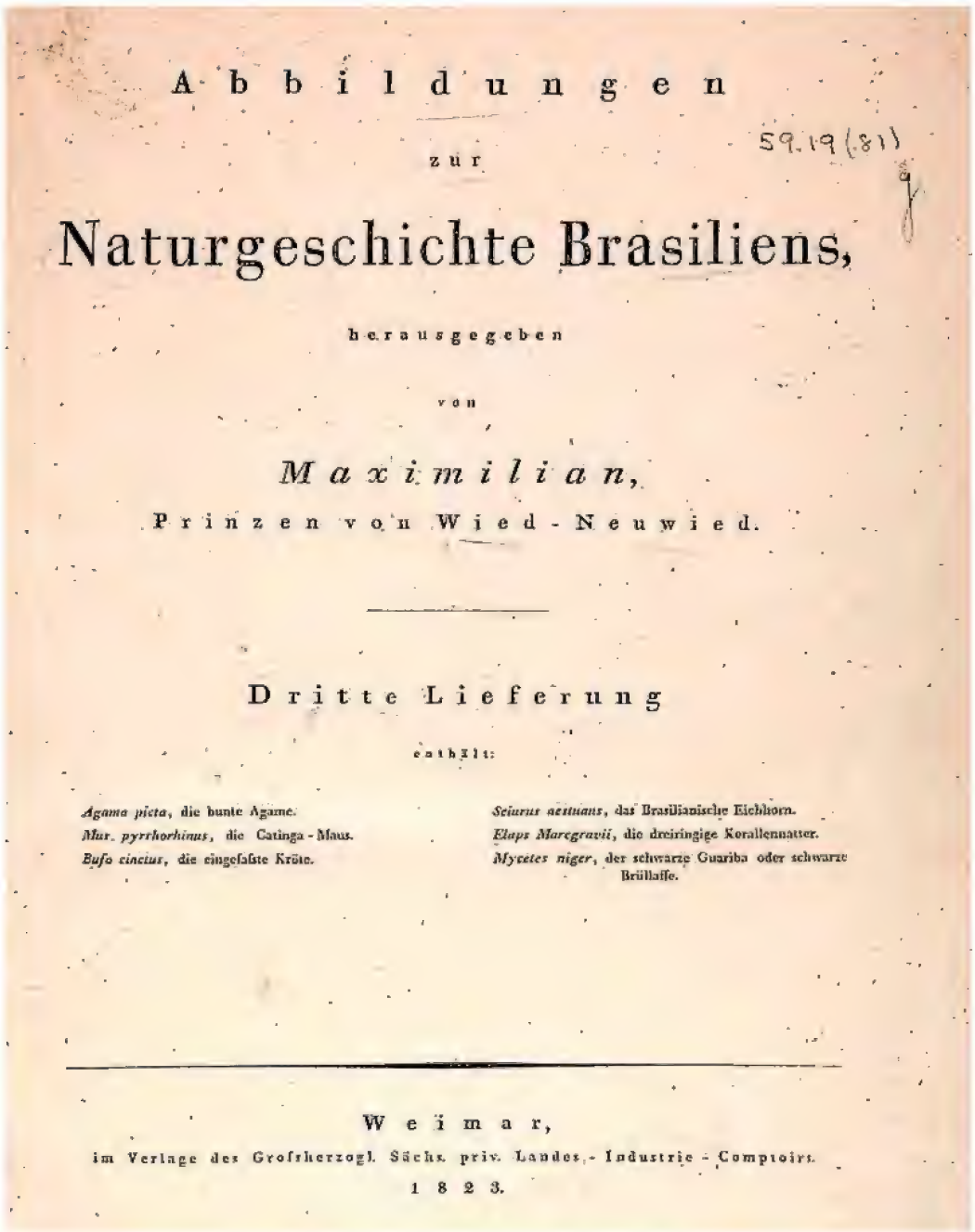
In the paper are given in anticipation the diagnoses of numerous new species, as well as additional names and diagnoses of species previously named by Maximilian and also a list of other species included in the work but ascribed to other authors. However, there is not a perfect correspondence between this list and the *Beiträge*, which will be mentioned as opportune.

It is obvious that the title of the 1824 *Isis* paper was not written by Maximilian; it was certainly Oken's. It is no less obvious that the diagnoses are Maximilian's and his authorship has never been questioned. Under References, we enclose Maximilian's name in square brackets simply to show the lack of a byline.

The adherence mentioned in the *Isis* to Merrem's system leads Maximilian to assign some species to him, in the sense not of original author, but as author of the current concept. These cases we have emphasized by separating the species name from Merrem's by a comma. The Merrem reference is to his 1820 *Versuch eines Systems der Amphibien.*

As an abstract, the *Isis* paper usually does not give exact localities. This has led some authors to statements such as "Type locality Brasil, noted as such and such in the *Beiträge*." We consider this an excess of legalism, and assign without comment to the species in the *Isis* the localities of the *Beiträge* and of the *Reise*.

It is strange that the title of the *Isis* article refers to the second volume of the *Beiträge*; obviously, reference should have been made to the first volume.



A b b i l d u n g e n

z u r

Naturgeschichte Brasiliens,

h e r a u s g e g e b e n

v o n

M a x i m i l i a n,

P r i n z e n v o n W i e d - N e u w i e d.

D r i t t e L i e f e r u n g

e n t h ä l t:

Agama picta, die bunte Agame.
Mur. pyrrhorhinus, die Catinga-Maus.
Bufo cinctus, die eingefaßte Kröte.
Sciurus aestuans, das Brasilianische Eichhorn.
Elaps Maregravii, die dreiringige Korallennatter.
Mycetes niger, der schwarze Guariba oder schwarze Brüllaffe.

W e i m a r,

im Verlage des Großherzogl. Sächs. priv. Landes-Industrie-Comptoirs.

1 8 2 3.

Fig. 3. Title page from the third volume of Prince Maximilian's *Abbildungen zur Naturgeschichte Brasiliens* (Wied, 1822–1831). Illustrated taxa are listed on the volume (*Liefererung*) title pages, but the contained plates are unnumbered (there are 6 plates in each of 12 *Liefererungen*). The herpetological plates reproduced herein are arbitrarily numbered 1–56 following the organization of the present work, which reflects the order of species presentation in volume 1 of the *Beiträge* (fig. 4). Geographic modifiers (Neuwied and Runkel) were dropped from the Wied family name in 1824. After that, "Wied-Neuwied" appeared only on the title pages of the *Abbildungen*, which had begun publication two years earlier.

Beiträge

zur

Naturgeschichte

von

Brasilien,

von

Maximilian, Prinzen

zu Wied.

I. Band.

Mit 3 Kupfertafeln.

Weimar,

im Verlage des Gr. H. S. priv. Landes-Industrie-Comptoirs.

1825.

Fig. 4. Title page of volume 1 of Prince Maximilian's *Beiträge zur Naturgeschichte von Brasilien* (Wied, 1825). This first of four volumes is the only one devoted to herpetology. Many new species are described in this fundamental work, which assembles information for all reptiles and amphibians collected by Wied.

5–7. Finally, Maximilian published three papers relevant to Brazilian herpetology in *Nova Acta, Academiae Caesarea Leopoldo-Carolinae*: the first on coral snakes and their mimics in 1820 or 1821 (vol. 10, no. 1); the second on *Coluber lichtensteinii* in 1825 (vol. 12, no. 2); and the third on Seba's *Quetz Paleo* in 1828 (vol. 14, no. 1). The *Nova Acta* series presents problems in citation owing to the history of changes in the journal's name, not to mention the presence of two title pages (one in Latin, one German, the latter usually ignored). For our purposes, the year plus *Nova Acta* is sufficient for text citation.

There is, however, some ambiguity in dating the *Nova Acta* coral-snake paper, which is dated 1820 in the herpetological literature, although Roth (1995c: 327) recently gave an 1821 date. That the last date may be correct seems suggested on page 109 of the coral snake paper, where Maximilian refers to a specific page in the *first* volume of his *Reise in Brasilien*, which was published in 1820. We call attention to this uncertainty by referencing the *Nova Acta* article as 1821? ("1820"). That the coral snake paper preceded the *second* volume of the *Reise* (1821) is indicated by reference to "dem neuesten Bande der [*Nova Acta*]" on page 75 of *Reise* 2.

Four taxa were named in the *Nova Acta* coral-snake paper, which is indisputably the primary reference for *Elaps corallinus* and *Elaps marcgravii*. It appears also to be the primary reference for *Coluber venustissimus* (rather than *Reise* 2 as usually given), but not as usually given for *Coluber formosus* (which we give as *Reise* 1).

North America: Maximilian's second great overseas expedition was to the United States, for which matters of herpetological relevance are contained in one book and in a book-length journal article.

A running diary of the U.S. expedition was published in two volumes as *Reise in das innere Nord-America in den Jahren 1832 bis 1834*. Issued to subscribers in installments during 1838–1841, the approach is very reminiscent of his earlier *Reise nach Brasilien*, again with a sprinkling of new species in footnotes.

Some years later, Maximilian published the *Verzeichniss der Reptilian, welche auf einer Reise im nördliche America beobachet wurden* (1865), which appeared in the *Nova Acta* series. This is reminiscent *n*of the first volume—covering the "Amphibia" [then including Reptilia] —of the earlier *Beiträge zur Naturgeschichte von Brasilien*.

The *History of Herpetology at the American Museum* (Myers, 2000: 7–8) points out that the Maximilian collections were acquired within months of the Museum's 1869 charter, but that the new institution lacked facilities for cold-blooded vertebrates. Maximilian's bird collection received early attention, with surveys by Allen in 1889 and 1891, and mammals were treated in 1965 by Avila-Pires. A program for reptiles and amphibians was established in July 1909 by Mary Cynthia Dickerson, who had just been hired as "Assistant" in a new Department of Ichthyology and Herpetology.

The Maximilian Collections at AMNH

> Miss Field. Will you please get out for me all the Maximilian material that is in our collection and find all the data that is in our department (cards etc.)
>
> —Handwritten note from Mary C. Dickerson to Assistant Arline Field circa 1914–1918.

That isolated scrap of paper surfaced circa 1983–1992, when I [Myers] directed that the Department of Herpetology Archives be formally organized "apart from the Central Archives...from decades of accumulated curatorial correspondence, departmental budget justifications, Museum memoranda, and other items that my predecessors fortunately never bothered to throw out." It was of passing interest because it was in Mary Dickerson's handwriting and mentioned the Maximilian collection.

Now, with the passage of time and a little more knowledge, I sense in that note her feeling of desperation and frustration. Miss Dickerson was overworked at the Museum, where she *simultaneously* held the editorship of *Natural History*, the curatorship of Woods and Forestry, and the Assistant Curatorship in Ichthyology and Herpetology. She was somewhat of a perfectionist and may have felt that her plans were in disarray because of inadequate or erroneous collection data associated with the Maximilian collection. She had

been trying to build up Herpetology as a stand-alone research department, with a constant influx of new specimens that were being professionally collected on AMNH expeditions from around the globe.[16] But Dickerson and her assistants had encountered nothing like the Maximilian collection, which seemed to present new problems at every turn.

We had been thinking of the Maximilian collection as the end result of the prince's Brazilian and North American expeditions. We knew that he must have obtained some specimens by trade or purchase, but had thought little about it. Wied scholars, however, occasionally mention that he had started a private collection while still a boy:

> Maximilian spent much time in the Wied hunting preserves in and near the Westerwald with his tutor, Lieutenant [sometimes "Captain"] Hoffmann. Here he not only began a collection of flora and fauna, he also became an avid hunter while still quite young. At the age of six he shot a wild duck, which was mounted and added to his growing collection. (Schach, 1995: 157)

So, the Maximilian collection seemingly is older than we had thought, which gives a different perspective. Most data problems in the Maximilian collection involve exotic localities, but collectors and sources for such localities are not given. Some involve transpositions of data, although it is not known whether these occurred before or after the collection arrived at AMNH; examples include: AMNH R-3402, *Pareas carinatus* from "Ceylon." Its identification was confirmed by S.B. McDowell in January 1981, but that taxon does not occur in Ceylon. Locality probably was transposed with that of AMNH R-3943 below. AMNH R-31943, "*Amblycephalus*" = *Aspidura brachyorra,* fide S.B. McDowell January 1981. From "Java, East Indies." Locality probably was transposed with that of AMNH R-3402 above. The above localities are consistent with a few entries in Maximilian's 1860 manuscript catalog, i.e., *Aspidura* in "Zeylon" (p. 25) and *Pareas* in "Java, East Indies" (p. 35) [probably Ceylon].

Neotropical specimens were sometimes misidentified and inexplicably cataloged with such data as "Ceylon," "Java, East Indies," and "Borneo, East Indies." One of the last bottles with a typed, pasted-on "Borneo" label (added sometime after unpacking at AMNH) contained three genera of Neotropical colubrids, cataloged as AMNH R-3841–3844).

An example of a mistake originating in Wied's 1860 manuscript catalog is species no. 386 (two specimens, now AMNH R-1082–1083), purportedly from Bogota, Colombia, and identified as *Xestosaurus bogotentis.* Although these specimens are in the Maxiilian collecton and entered in the prince's catalog, he was not the collector as assumed by the Burts. Burt and Burt (1931) made the two specimens types of *Pantodactylus nicefori,* n.sp. Ruibal (1950), however, identified them as the European *Psammodromus algirus* (Linnaeus) with bad data! Identifications in this collection are not to be trusted without verification.

It is easy to see that a complex zoological collection, sold in bulk to another continent, without the supervision of the owner and to an institution still without a firm tradition, had to face many problems. This was particularly true for amphibians and reptiles. When received at the American Museum, Wied's collections (at least in herpetology and ornithology) were accompanied by manuscript "catalogues" dated 1860 and 1865, respectively. These were handwritten by the prince. The 1860 one for herpetology has 441 numbered items and is titled *Verzeichniss der Reptilien-Sammlung nach Duméril, Bibron, und Jan* (see appendix 1 for samples of content and handwriting). This name of this important document is abbreviated as the **1860 manuscript catalog.**[17]

[16] Dickerson did reach her goal. "On February 2, 1920, a new department ... was formally created, with Mary Dickerson as its first Curator. [She] therefore is the founder of the first separate Department of Herpetology, which was brought about by her vision, hard work, and astute administration" (Myers, 2000: 13).

[17] It must be remembered that the manuscript catalog is not a specimen catalog but rather a register or index to the collection; it includes separately numbered lists of genera and of species in the collection. The numbers therefore correspond to taxa, not to actual specimens, which much reduces the usefulness of the manuscript catalog. With some exceptions, the geographic information in the list is nearly useless; it refers only to the general distribution of the species, not to individual localities; these must be researched in the *Beiträge* and in the *Reise.*

There appears to be no archival record of how the specimens were packed for overseas transport to the Museum. There is an indication in the back of the *Verzeichniss* that mixtures of specimens of different species might have been stored in large numbered jars (or perhaps packed that way for shipment?). The collection was purchased in late 1869, within months of the Museum's charter—40 years before the establishment of a Department of Ichthyology and Herpetology. In 1887, the alcoholic specimens were removed from old bottles "to new ground-stoppered bottles" (Myers, 2000: 95), with labels evidently glued to the outside of the bottles; those labels, presumably the source of catalog data years later, have not survived. Numbers from the species list in the *Verzeichniss* might have been associated with specimens early on and, in any case, were later added to some AMNH catalog entries as "original" numbers. The Museum's bound catalogs were not initiated until 1920; the herpetological catalogues were preceded in the old Department of Ichthyology and Herpetology by several successive card catalogs that unfortunately were not archived (Myers, 2000: 100). Thus, it is hardly surprising that the cataloged data are not uniformly reliable, but need to be checked in each case.

Maximilian's collection was worldwide, including 87 specimens remaining of South American reptiles and 69 specimens of South American amphibians. His South American material would have consisted mostly of specimens that he had collected in Brazil or obtained by trade or purchase.

In generally keeping with collections amassed before the early 20th century (when modern flashlights became available), the Maximilian collection contains more reptiles than amphibians. Prince Max's burning torches led to the discovery of *Hyla fabor* Weid, the "blacksmith frog," and he doubtless would have made pioneering use of an electric "torch" or flashlight. (See "The 'New Technique' of Night Collecting" in Myers, 2000: 122–126). The reptile: amphibian disparity in the Maxmillian collection may be greatest today partly because of the unexplained disappearance of many snake taxa from his collection.

PROCEDURE OF STUDY

Our objective has been to identify the surviving types of Brazilian reptiles and amphibians in the Maximilian collection and to track down the history of whatever specimens had been the subject of publication.

The starting point was forcibly the *Beiträge*. This is a work of singularly modern conformation. It contains for each species a synonymy, a description, measurements, meristic data, and a discussion of distribution.

We tried to fit the information in the *Beiträge* to all specimens in the collection, whether or not they had been previously labeled as types. The criteria for decision on possible type status were fourfold: the *Beiträge* description, the measurements, the scale counts, and the *Abbildungen* plates.

Description

Measurements: Maximilian's units of measure included the *Fuss* (Fuß, "foot"), *Zoll* ("inch"), and *Linie* ("line"). In French text (in the *Abbildungen*), Maximilian used the equivalents *pied*, *pouce*, and *ligne*. *Pieds* of varying lengths were employed in France—a *pied* being divided into 12 *pouces* and each *pouce* into 12 *lignes*. For descriptions of specimens in the *Beiträge*, Maximilian employed the nearly universal foot-unit notations ′ (feet), ″ (inches), and ‴ (lines, 12 to the inch).

Some authors have assumed that Maximilian's measurements could be equated with the modern foot. We were skeptical that it would be so easy, and Maximilian's published measurements presented an initial problem. We could not find in the literature an unequivocal value for the inch used by Maximilian. We went around this difficulty by taking the total lengths of the following eight specimens unmistakably measured by him and by Vanzolini and regressing Vanzolini's measurements, in millimeters, on Maximilian's inches. (In the following table, measurements made by Myers for the same specimens are also shown.)

Specimen	Prince Max	Vanzolini	Myers
Amphisbaena flavescens	0-19-4[a] = 19.3 in.	471 mm	475 mm
Cophias bilineatus	1-10-8 = 22.7 in.	585 mm	592 mm
Elaps marcgravii	0-31-8 = 31.7 in.	820 mm	812 mm
Scytale coronata	0-35-6 = 35.5 in.	932 mm	909 mm
Coluber carinicaudus	2-11-10 = 35.8 in.	872 mm	880 mm
Coluber acuminatus	3-10-10 = 46.8 in.	1230 mm	1211 mm
Coluber liocercus	4-2-4 = 50.3 in.	1145 mm	1145 mm
Coluber plumbeus	6-1-0 = 73.0 in.	1825 mm	1827 mm

[a] Feet-inches-lines, reduced to inches.

The statistics of the linear regression are

b = 24.45 ± 1.247 mm

a = 22.08 ± 150.098

r^2 = 0.9846

This is an excellent fit. The intercept, as it should, does not differ from zero; the slope (Maximilian's inch) is quite reasonable, and the very high coefficient of determination at least diminishes problems related to method of measurement or to shrinking or stretching of specimens in the nearly two centuries between the two measurements.

We eventually came to consider the possibility that the foot measure used by Maximilian might have been the best remembered of the old French measures—the *pied de roi* or royal French foot, also called the "Paris foot"—with metric equivalents of 32.48 cm per *pied*, 27.01 mm per *pouce*, and 2.26 mm per *ligne*. Among 17th-century German zoologists who published measurements based on this old system were Finsch and Hartlaub (1870), who showed a scale contrasting "½ Fuss altfranzösisch Maas. (Pied du Roi)" with a more modern metric scale (figure inserted between their pp. 30–31).

Inquiry to the Fürstlich Wiedische Archiv, in Neuwied, brought the response from archivist H.J. Krüger that *aus einem Brief Frorieps ergibt sich, dass Pariser Längenmaß angewandt hat*. The reference is to an 1823 letter from one of Maximilian's correspondents, Ludwig Friedrich von Froriep. The relevant letter, with an editorial footnote, is published in Bosch (1991: 55). In the letter, Froriep inquired of Maximilian, *Auch bitte ich zu bemerken welches Maas gebrauch worden ist. Doch wohl das alte französische!* ("Also I ask you to please note which measure is used. No doubt the old French one!") Maximilian's response was not recorded, but an editorial footnote to Froriep's question stated that *Nach dem von Maximilian verwendeten "Pariser Maas" rechnet sich ein Fuß mit 0,325 m.* (Bosch, 1991: 55). This would be the *pied de roi.*

However, finding that Maximilian probably employed the *pied de roi* as his unit of measure did not advance us far. When the eight measurements (see above) of Maximilian are translated using the royal *pouce* (27.01 mm), the differences with Vanzolini's measurements of the same specimens are in the range of 27–214 mm ($\bar{x}$ = 81.9), compared with differences of 1–86 mm ($\bar{x}$ = 41.3) using the value (24.45 mm) from regression analysis. Considering the certain *inevitable* presence of measuring "error" (in Maximilian's time as well as ours), and variable tissue change (whether original shrinkage or subsequent softening and stretching) over nearly two centuries of preservation, a difference of 2.56 mm between the *pied de roi* and our regression figure is not significant to present purposes.

Consequently, we have not changed our original approach. Our converted measurements were obtained by first converting Maximilian's feet, inches, and lines to his inches, and then multiplying that figure by 24.45 to obtain the metric equivalent in mm.

SCUTELLATION: In the case of scale counts we compared Maximilian's and our counts in five unequivocal instances. For ventrals there was agreement in two cases, in the others differences of two and three scales: a maximum disagreement of 1.4%. For subcaudals agreement was perfect in all cases. It seems

obvious that these numerical data are very dependable and useful.

THE *ABBILDUNGEN* PLATES: An introductory sheet faces Wied's color plates bound at the end of this *Bulletin*. One should appreciate that the artwork is based on Prince Maximilian's pen-and-watercolor paintings made by him in the field. His preserved specimens provided recourse to anatomical detail when his paintings or sketches were professionally copied in Germany, where he contracted for production of the copperplate molds and 300 hand colored copies of each print.

The hand-colored folio plates offer two kinds of information. Some of the figures of whole animals show peculiarities of color pattern (e.g., the banding of *Micrurus*; the throat pattern of *Spilotes*). Otherwise the detailed etchings of head scale patterns afford very good evidence in some cases (but not others), especially in what concerns the pattern of the anteriormost ventrals and adjacent gular scales.

The folio plates of the *Abbildungen* are so important, and so difficult of access, that we reprint the herpetological ones herein, resized to fit the present pages. Most of the plates are from the *Abbildungen* in the Rare Book Collection of the American Museum of Natural History. Two plates lacking in the AMNH collection (*Coluber acuminatus* and *Coluber lichtensteinii*) are from the library of the Museu de Zoologia da Universidade de São Paulo.

The plates in the AMNH copy of the *Abbildungen* were not bound with protective interleaving and sometimes show a usually faint transfer of paint from a facing page of printed text; penciled annotations include a number that reflects the order in which the plates (mammals, birds, reptiles, and amphibians) are bound in the AMNH copy. No attempt was made to enhance the plates by removing such extraneous markings.

The reprinted plates are variable but match well with the institutional copies from which they were made. One should not, however, expect precise color correspondence with a live specimen in hand. Subjectivity started with the light in which Maximilian viewed his specimen and with the pigments available to him in the field, which later were matched by the colorist(s) of the engraved plates. Furthermore, comparison of old hand-painted plates in different libraries may reveal expected differences brought about by conditions of storage, including varying exposure to light and temperature fluctuation.

For reference herein, we have arbitrarily numbered the *Abbildungen* herpetology plates 1–56, reflecting the order in which the species are taxonomically treated in the *Beiträge*—and we have followed that same order in the text of this paper as well. Not all species were represented in the *Abbildungen.*

ABOUT NEW SPECIES, TYPE SPECIMENS, AND TYPE LOCALITIES

As long recognized by his peers, Wied proved himself to be good taxonomist, but he worked slightly before (and perhaps slightly outside of) the establishment of "modern" taxonomic procedure. He usually did not warn or advertise when he was describing a new species and he did not designate type specimens. Those concepts are applicable to his work but must be discovered and applied retrospectively.

A new or previously unnamed Wied species normally is accompanied by a diagnostic paragraph and a Latin binomial (with the generic name usually abbreviated) *without reference to other names or literature*. Wied often duplicated such paragraphs in subsequent papers; the species accounts herein indicate which papers qualify the new names on the basis of priority. Wied named about 61 new species and one new genus from his Brazilian work.

Wied did not designate type specimens. Discovering his extant holotypes or syntypes is a goal of this paper. If we know or strongly suspect that Prince Maximilian had only one specimen when he described a species, that specimen clearly is the holotype. Similarly, when he gives data for two or more specimens, those are syntypes from which a lectotype can be selected. There are times, however, when there is no clear advantage in designating a lectotype as the type (e.g., see fig. 19).

In a few cases Wied may seem to base a species description on a single specimen when others are available. Common sense should prevail in judging whether there is a holotype, recognizing that Wied's concept of the species

may have derived from his seeing more than one specimen when writing the description.

Type localities usually can be associated with one or more Wied specimens. Type localities sometimes can be narrowed down with additional data, but should never be invented. Type locality designations are not binding in any case.

Method of Presentation Summarized

The following species accounts are arranged in the order of their appearance in the *Beiträge* (i.e., in vol. 1 of the *Beiträge zur Naturgeschichte von Brasilien*, 1825). A few names used earlier by Maximilian were subsequently discarded and (with one exception) not even mentioned in the *Beiträge*. We explain these otherwise confusing and nearly forgotten usages under species headings that are inserted in appropriate places in the present text (for names authored in parallel by Wied and Schinz, see also Myers et al., 2011). The arrangement of color plates reprinted herein from the *Abbildungen* (1822–1831) parallels the order of the text arrangement, for which purpose we have arbitrarily numbered them 1–56. (It is important to remember that there were *no* original plate numbers, only numbers and dates for the 15 Lieferungen, each of which contained six unnumbered plates of vertebrate animals).

The generic and species names in the account headings are the names used by Maximilian.[18] He always gave an authority for older names; we insert a comma between a species name and the authority if the latter is not the original author of that name. The custom of "new species" designation was not in universal use, and absence of authority after a species name is a good first indication that Maximilian was authoring a new name. We follow modern cataloging rules and Prince Maximilian's own preference in using his later, officially simplified name *Wied* as authority rather than the original compound *Wied-Neuwied*, which the family Wied discontinued after 1824 (see Permutations of the Prince's Name).

Under each species-account heading is a chronological list of abbreviated references to Maximilian's works. These allow virtually complete tracking of Maximilian's discussions or mention of all species. The Prince himself was good at cross-referencing his own works and we found very few errors in his citations.

The current taxonomic status of a species is given next, followed by remarks of diverse nature. We have tried in all cases to determine whether a species is represented by a Maximilian specimen in the American Museum collections, with particular reference to the presence or absence of type specimens

SPECIES ACCOUNTS: REPTILES

Caretta esculenta Merrem

1820 *Reise* 1: 220.
1821 *Reise* 2: 72.
1824 *Isis*: 661 (listed).
1825 *Beiträge*: 21, 597.

Present Status: Wied's account is based on *Caretta caretta* (Linnaeus, 1758). Merrem's *esculenta* is a synonym of *Chelonia mydas*.

Remarks: In the first volume of the *Reise* Wied described *Testudo mydas* Linnaeus (now *Chelonia mydas*) as laying eggs on the coast of Bahia; the species does not lay eggs in Brazil.[19] In the second volume Wied stated doubts about the preceding identification, and promised to return to the subject after due consideration of a skull obtained in Bahia. In the *Beiträge* he concluded that the specimen is not *mydas*, but did not comment on his attribution of it to Merrem's species.

There are no specimens in the collection.

Caretta imbricata, Merrem

1824 *Isis*: 661 (listed).
1825 *Beiträge*: 24.

[18] Wied gave generic accounts in the *Beiträge* and thereafter used the initial letter of the genus name as an abbreviation with the species name. The nomenclaturally demanding reader can mentally insert square brackets in the heading of each species account if so inclined (e.g., *L[achesis]. rhombeata* Wied).

[19] The large turtle shown laying eggs on a beach in a plate in *Reise* 1 (after p. 216) is *Caretta*. This engraving, showing two men watching while a third removes eggs from the hole, is based on a colored sketch by Wied. (The cloaked figure wearing a tall hat represents Wied himself.) Wied's original colored sketch is reproduced in Bosch (1988: 91). It was copied for publication in the *Reise* by an unknown artist, who added a gun to the hand of the cloaked figure; an uncropped reproduction of the copy also is shown in Bosch (1986–1991, 2/1: 206).

PRESENT STATUS: *Eretmochelys imbricata* (Linnaeus, 1766).

REMARKS: No specimens in the collection.

Caretta cephalo Merrem

1824 *Isis*: 661 (listed).
1825 *Beiträge*: 25.

PRESENT STATUS: *Caretta caretta* (Linnaeus, 1758).

1824 *Isis*: 661 (listed).

REMARKS: No specimens in the collection.

Sphargis mercurialis Merrem

1825 *Beiträge*: 26.

PRESENT STATUS: *Dermochelys coriacea* (Vandelli, 1761). This name has most often been attributed to Linnaeus; see Bour and Dubois, 1983, for history).

REMARKS: There are no specimens in the collection.

Emys depressa (Wied, 1821)
Plates 1, 2

1820 *Reise* 1: 321.
1821 Reise 2: 91 (as *Testudo depressa*).
1824 *Isis*: 662 (diagnosis, as *Emys depressa*).
1825 *Abbildungen*: Lief. 9 (2 pls.).
1825 *Beiträge*: 29.

PRESENT STATUS: *Acanthochelys spixii.*

REMARKS: In the *Reise* there is a long footnote, practically a full page, describing this species and discussing an additional specimen that belongs to the following species. There are two plates in the *Abbildungen*, one a dorsal rendition of the entire turtle in color, the other showing lateral and ventral views of the head and neck in color and also a ventral outline of the shell in black and white. There are no specimens in the collection.

Emys depressa (Wied, 1821) is a junior homonym of *Emys depressa* Merrem (1820: 22).

Emys radiolata Mikan
Plates 3, 4

1821 *Reise* 2: 91 (young specimen under *Testudo depressa*).
1824 *Isis*: 662 (diagnosis).
1825 *Beiträge*: 39.
1828 *Abbildungen*: Lief. 12, 2 plates.

PRESENT STATUS: *Acanthochelys radiolata* (Mikan, 1820).

REMARKS: In the *Beiträge* the species is very well described, based on several specimens; measurements are given of two individuals, with plastral lengths 101 and 113 mm. A specimen is figured twice in the *Abbildungen*: in one plate the whole animal is shown from life in dorsal view, with a lateral view of the head and neck; the second plate shows the shell in dorsal and ventral views. The carapace came out too dark in the first plate and is of little use. The second plate is very good.

AMNH R-7073 is a stuffed specimen, plastral length 120 mm; it may be the larger specimen of the *Beiträge*. It certainly is not the specimen whose shell is figured; there is too much morphometric difference.

Testudo tabulata, Linnaeus
Plates 5, 6

1820 *Reise* 1: 263.
1821 *Reise* 2: 119.
1824 *Isis*: 662 (diagnosis).
1824 *Abbildungen*: Lief. 5 (adult).
1825 *Beiträge*: 51, 597.
1828 *Abbildungen*: Lief. 12 (juvenile).

PRESENT STATUS: *Geochelone denticulata* (Linnaeus, 1766).

REMARKS: Measurements of two specimens are given in the *Beiträge*, with plastral lengths 218 and 255 mm. The first of two plates in the *Abbildungen* shows a lateral view of an adult in life (pl. 5); the second shows the shell of a juvenile, with dorsal and ventral views in color and a lateral view in black and white (pl. 6). The figures are excellent.

In the collection there is a shell of an adult female, AMNH R-7043, plastral length 290 mm, possibly the subject of Wied's first plate. On the plastron is written "Brasilia, Mucuri."

Pritchard and Trebbau (1984: 226–227) suggested that the Atlantic Forest population of *Geochelone denticulata* is isolated from the main part of its range:

> There is evidence that a disjunct population of *G. denticulata* occurs or did occur in the coastal forests of eastern Brazil; ...Maximilian zu Wied (1820) found empty shells of tortoises at Tabebuén (north of Cabo Frio, Edo. Rio de Janeiro), and recordad tortoises at Morro de Arara, Rio Mucurí, Edo. Bahía; Belmonte,

> Edo. Bahía, where they were not rare; and in the densest vegetation along the Rio Ilhéus, Edo. Bahía.... Nevertheless, the species appears now to be virtually or completely extirpated from the eastern forests of Brazil.

Wied's locality information (given by Pritchard in the quote above) comes not from the 1920 *Reise* as cited by Pritchard and Trebbau, but from page 61 of the *Beiträge*. (Wied had few references to this species in the *Reise*.) And "Tapebuén" is not a Wied locality but a copying mistake for *Tapebucú* (= Tapebuçu).

Crocodilus sclerops Schneider
Plate 7

1820 *Reise* 1: 153, 230. 20
1821 *Reise* 2: 117.
1824 *Isis*: 662 (diagnosis).
1825 *Beiträge*: 69, 598, pl. 1.
1828 *Abbildungen*: Lief. 12.

PRESENT STATUS: Wied's treatment was based on *Caiman latirostris* (Daudin, 1802 [v. 2]).

REMARKS: Wied misidentified his caimans: *sclerops* is a synonym of *crocodilus* Linnaeus, which does not occur in the area. Some anatomical structures are shown in plate 1 of the *Beiträge*. There are no specimens in the collection.

Gekko incanescens Wied, 1824
Plate 8

1820 *Reise* 1: 106 (as *Gecko spinicauda)*.
1824 *Isis*: 662 (diagnosis and reference to *Reise* 1: 106).
1825 *Beiträge*: 101.
1829 *Abbildungen*: Lief. 13.

PRESENT STATUS: *Hemidactylus mabouia* (Moreau de Jonnès, 1818).

REMARKS: The citation in the *Reise* for this and the following species consists of a tentative attribution to *Gecko spinicaudus* and of an explicit mention of the type locality, Paulista (see below). The name dates from the 1824 *Isis*. The description in the *Beiträge* is good; the illustration (fig. 2 in pl. 8) is not good, but it does allow identification, given the geckos present in the region.

There are no specimens in the collection. See further under the species following.

Gekko armatus Wied, 1824
Plate 8

1820 *Reise* 1: 106 (as *Gecko spinicauda*).
1824 *Isis*: 662 (diagnosis).
1825 *Beiträge*: 104, pl. 2 (figs. 1–4).
1829 *Abbildungen*: Lief. 13.

PRESENT STATUS: *Hemidactylus mabouia* (Moreau de Jonnès, 1818).

REMARKS: A composite plate (including *Polychrus*) in the *Abbildungen* shows *Gekko incanescens* Wied in color (i.e., gray), whereas *Gekko armatus* Wied is illustrated only by outline drawings (figs. 3–6 in pl. 8).[20] Further outline drawings of *G. armatus* were given in plate 2 of the *Beiträge*.

In the *Beiträge* Wied explained that he had initially thought that the two sympatric geckos belonged to the same species; he gave the reasons (all within the local variation of the species) why he came to call them by distinct names. The nomenclaturally valid original diagnoses, for both species, are in the *Isis* for 1824.

Both nominal species share the same type locality, Paulista (Praia do Paulista, 22°13′S, 41°27′W [Vanzolini, 1992: 123]). There are no specimens in the collection.

Anolis gracilis Wied, 1821
Plate 9

1821 *Reise* 2: 131.
1824 *Isis*: 663 (diagnosis and reference to *Reise* 2).
1824 *Abbildungen*: Lief. 6 (fig. 2 of composite pl.).
1825 *Beiträge*: 108.

PRESENT STATUS: *Anolis punctatus* Daudin, 1802 [v. 2].

REMARKS: In *Reise* 2 (pp. 131–132) there is an extensive footnote, comparing the new species with "Daudin's *Anolis à points blancs*" (*A. punctatus*). In the *Isis* for 1824 there is a diagnosis, but the earlier date of the second volume of the *Reise* prevails for the original description.

The upper figure (no. 2) of *Anolis gracilis* in the composite *Abbildungen* plate is of a male displaying with extended dewlap,

[20] Wied's original studies for this plate (Bosch, 1991: 238, not illus.) were redrawn by Hermann Beckers. The prepublication layout of the plate is shown in Bosch (1991: 243).

painted from life; the lower figure (no. 1) of *Anolis viridis* is of a female. Both are *Anolis punctatus* Daudin. The sexual dimorphism in this lizard misled Wied into thinking he had two species on hand.

In the *Beiträge*, Wied notes that he had only one specimen of *Anolis gracilis*, from Rancho do Veado (at 14°47′S, 39°19′W) (Bokermann, 1957). The specimen shows as species no. 38 in Wied's 1860 manuscript catalog, but there is no evidence that it ever reached the American Museum.

Anolis viridis Wied, 1821
Plate 9

1821 *Reise* 2: 132.
1824 *Isis*: 663 (diagnosis and reference to *Reise* 2).
1824 *Abbildungen*: Lief. 6 (fig. 1 of composite pl.).
1825 *Beiträge*: 113. e very good, as is the plate showing a female (see preceding account). The type locality is Morro da Arara (18°06′S, 39°48′W, Vanzolini, 1992), rendered in the *Beiträge* as "Lago ditrara."

PRESENT STATUS: *Anolis punctatus* Daudin, 1802.

REMARKS: Both the description in the *Reise* and that in the *Beiträge* ar goa d'Arara (the spelling "ditrara" on p. 116 is a typographical error corrected on p. 611). There are no specimens in the collection nor is the species listed in Wied's 1860 manuscript catalog.

J. [*Iguana*] *sapidissima* Merrem

1824 *Isis*: 663 (listed).
1825 *Beiträge*: 117.

PRESENT STATUS: *Iguana iguana* Linnaeus, 1758.

REMARKS: The *Beiträge* report, under the generic account for *Iguana*, is headed "*J.*" *sapidissima*, a typographical error. Wied encountered *Iguana* only in Bahia at the northern point of his trip, and speculated that in eastern Brazil it did not range south of parallel 14° S. He did not get a fresh specimen and regretted that he could not provide some observations on color variation. Maximilian's 1860 manuscript catalog shows "*Iguana tuberculata* D.B." (species no. 40) from "Sud America" (hence not from his expedition), but no specimen is extant.

Polychrus marmoratus Merrem
Plate 8

1824 *Isis*: 663 (listed).
1825 *Beiträge*: 120.
1829 *Abbildungen*: Lief. 13.

PRESENT STATUS: *Polychrus marmoratus* (Linnaeus, 1758).

REMARKS: In letterpress accompanying the *Abbildung*, Wied noted that Spix's plate was incorrectly colored and that the living color of this well-known lizard had been nowhere described, and that he had obtained only a female for illustration. In the *Beiträge*, Wied said that his specimen was taken alive at Villa Viçoza; it measured 4″5‴ + 10″7‴ = 15″ (our conversions 108 mm + 260 mm = 368 mm). This specimen seems to have disappeared prior to Wied's preparation of his 1860 manuscript catalog, which lists it only from Guiana (species no. 37 [AMNH R-105 and R-1695, are cataloged as Maximilian specimens from Guiana]).

Wied's unpublished manuscript name for this species was "*Polychrus virescens*," which was validated by Schinz (1822: 65). Wied (1825a: 124) explained in the *Beiträge* that Schinz had used the name *virescens* based on a short note from him. For commentary on the name *Polychrus virescens* as used by Voigt (1832), Wagler (1828: pl. 12), and Schinz (1833–1835: 88–89, pl. 28), see Myers et al. (2011: 4, 8). Myers et al. (2011) furthermore summarized that "*Polychrus virescens* Schinz is correctly shown in Peters and Donoso-Barros (1970: 234) as a synonym of *Polychrus marmoratus* (Linnaeus), but it had been Wied's manuscript name for a new species that he subsequently re-identified as *Polychrus marmoratus*, [sensu] Merrem."

Although *Polychrus marmoratus* has a huge distribution in northern South America; there are only a few synonyms, but the type localities are vague or lacking (see Peters and Donoso-Barros, 1970: 234). Depending on an analysis of geographic variation and species boundaries, the nomen oblitum *Polychrus virescens* Schinz conceivably could be resurrected for a Brazilian population.

Agama picta Wied, 1823
Plate 10 and figures 5–8B

1823 *Abbildungen*: Lief. 3.

1824 *Isis*: 663 (listed, with reference to the *Abbildungen*).

1825 *Beiträge*: 125, 604.

PRESENT STATUS: *Enyalis pictus* (Schinz, 1822).

Agama picta Wied, 1823, was placed as a species of *Enyalius* by Etheridge (1969: 240), and changed to subspecific status by Jackson (1978: 21). Because Wied's name subsequently was shown by Myers et al. (2011) to be an objective junior synonym of *Agama picta* Schinz, 1822, the current name of this taxon becomes *Enyalius catenatus pictus* (Schinz, 1822). Only the senior authorship is changed; "the original concept of the taxon is that of Wied (1823, Lief. 3; 1825a: 125, 604)" fide Myers et al. (2011: 7).

REMARKS: *Agama picta* was in recent years dated from the 1825 *Beiträge* (Etheridge, 1969: 240; Jackson, 1978: 21), but the 1823 plate and accompanying text diagnosis and description clearly have precedence; Etheridge (1970: 118) later correctly gave the *Abbildungen* as source but incorrectly retained the 1825 date.

The Maximilian collection at the American Museum contains but a single specimen of *Enyalius*, AMNH R-108, from which all color pattern has been bleached after nearly two centuries in alcohol. More than a little confusion surrounds this poor specimen, as outlined below, following a brief description. It should become evident to the reader that intraspecific variation and species limits in *Enyalius* are still not well understood.

DESCRIPTION OF AMNH R-108: It is a female, with convoluted oviducts but lacking enlarged ova; the body has been previously opened. The specimen is very soft and has lost all vestiges of color pattern. Size: 90 mm SVL + 197 mm tail (including broken-off piece of 145 mm) = 287 mm total length (tail 2.19 × SVL); tibia length 23 mm, tibia/SVL = 0.26. Canthal ridge virtually straight, barely curved toward midline anteriorly; anteriormost canthal scale somewhat approaching upper edge of nasal scale. Supraoculars smooth, some moderately enlarged, approaching size of circumorbital scales. No enlarged suboculars. Midbody scales cannot be accurately counted owing to condition of specimen. A low vertebral crest starting at rear of head and continuing weakly onto base of tail: 54 enlarged vertebral crest scales (or 65 scales including small ones) to anterior edge of thigh held at right angle to body, or 74 scales (large and small) to level of rear edge of thigh. Small conical scales on sides of body, becoming distinctly larger, flattened, and virtually smooth dorsally on either side of vertebral crest. Ventral scales very weakly keeled on chest, becoming smooth over most of venter. Scales on underside of shank (infratibials) keeled, about as wide as long. Subdigital lamellae smooth, distal several divided. Caudal scales arranged in segments, with about 4–5 dorsal and 3 ventral scales per segment.

Because the specimen has lost all vestiges of color pattern, Maximilian's lovely plates of *picta* and *catenata* (see pls. 10–11 herein) cannot be used to assign it, and other avenues must be explored.

ASSIGNMENT OF AMNH R-108: Although only this specimen is known to have reached the American Museum, Maximilian had collected at least four and probably at least five specimens of two species of "*Agama*," which he named *catenata* and *picta* in 1821 and 1823, respectively. In 1860, Maximilian brought their identifications and then-current synonymies up to date in his manuscript catalog, as follows:

1. *Enyalius* Wagl. *rhombifer* D. et B. f[ide] Wagl. (*Agama catenata* Wied). *Lophyrus rhombifer* Spix). ([species no.] 380).
2. *Uperanodon* D.B. *pictum* D.B. (*Agama picta* Wied) ([species no.] 335).

AMNH R-108 was identified after (1) above, with the name *Enyalius rhombifer* entered in the AMNH book catalog for reptiles; of two "original" numbers shown, one (380) was Maximilian's species number and the other (152) probably an older AMNH card catalog number preceding the first (1920) book catalog (Myers, 2000: 100). Myers examined the catalog entry in 1976, finding that someone had decided that AMNH R-108 was the type of Maximilian's *catenatus* and that the catalog had been so marked. The original book entry had consequently been emended by attempting to erase "*rhombifer*" (still legible under magnification) and superimposing the name

Fig. 5. Holotype of *Agama picta* Wied in dorsal view (AMNH R-108); 90 mm SVL. The once-vivid color pattern has completely faded.

"*catenatus*"; the same hand added "Bahía" to the original entry "Brazil."[21]

Etheridge (1969: 244, 246) examined AMNH R-108 for his revision of *Enyalius* and accepted the designation of holotype for *E. catenatus*. In his account for *E. pictus*, Etheridge (1969: 240) designated a neotype of *pictus* under the assumption that the holotype of that species "apparently was in the American Museum...and is now lost."

In a subsequent revision of the genus, Jackson (1978: 19–20) also examined AMNH R-108, which he thought did not agree with his concept of *catenatus*. On the basis of the aforesaid emended catalog entry (Myers in letter to J.F. Jackson, Jan. 13, 1976), Jackson concluded that the specimen did not have type status and that the holotype of *catenatus* is apparently lost. Jackson (1978: 21) accepted also Etheridge's conclusion that the holotype of *E. pictus* was likewise lost and stated that the neotype designated by Etheridge corresponds well with Wied's illustration of *pictus*.

[21] These catalog emendations were not necessarily incorrect *if* the original entry *rhombifer* had been taken from the bottle containing Wied's specimen, but that cannot be determined. It is not known when the emendations were made, but they were entered prior to about 1969, after which changes or data interpolations were made in pencil and usually dated and initialed (Myers, 2000: 101).

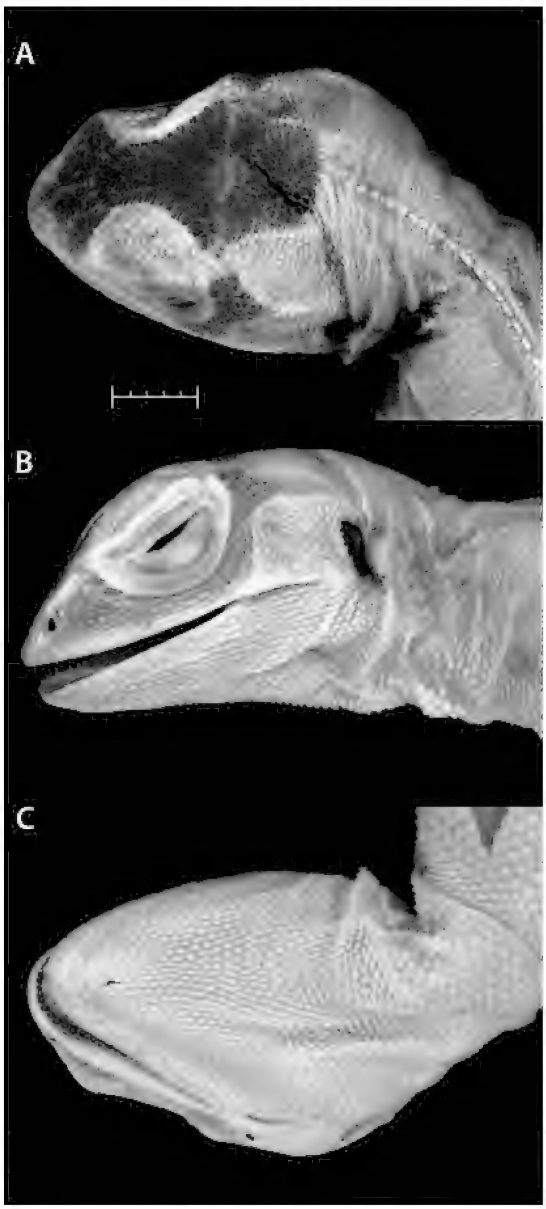


Fig. 6. Holotype *Agama picta* Wied. Details of head in dorsal, lateral, and ventral view (AMNH R-108); 5 mm scale line.

Jackson (1978: 19) further concluded that AMNH R-108 "is clearly a member of an unnamed taxon of which all other specimens have been collected in southeastern Brazil." Jackson (1978: 26) assigned AMNH R-108 to his new *Enyalius perditus*.

Unfortunately, in accepting that AMNH R-108 either was, or was not, the holotype of *A. catenatus*, neither Etheridge nor Jackson seems to have compared it with specimens of the one other species described by Wied, namely *A. picta*. Jackson furthermore did not compare the specimen critically with specimens of his *Enyalius perditus*.

The specimen comes out readily to *Enyalius pictus* in Etheridge's (1969: 255–256) generic key, or to *E. catenatus* if the faintly keeled chest scales count as "ventral scales keeled." However, because of the relatively close approach of the anterior canthal ridge to the nasal scale, the specimen keys out to the later-described *E. perditus* of Jackson (1978: 27–28). Nonetheless, AMNH R-108 does *not* appear to be conspecific with *Enyalius perditus* Jackson, despite Jackson's (1978: 26) flat-out claim that it *is* a specimen of that southern species, which claim was given as "further evidence that AMNH R-108 is not Wied's type of [the more northern] *catenatus* since the type locality is specified as the interior of Bahia." Jackson asserted that AMNH R-108 was a specimen of *perditus* but did not include it as a paratype or discuss the characters that led him to his conclusion. He may have been impressed mainly by the condition of the anterior part of the canthal ridge, inasmuch as several other characters are inconsistent with his description of *perditus*, which has, for example, keeled supraorbitals and keeled belly scales. We have compared AMNH R-108 with four specimens of *E. perditus* collected at the type locality Boracéia.[22] These specimens are immediately distinguishable from AMNH R-108 by a character not used by Jackson—the sides of the body in *perditus* are covered with tiny conical granules that become slightly larger dorsally but remain conical or strongly keeled in the paravertebral region. In contrast, the dorsal scales on either side of the median crest in AMNH R-108 are larger, flattened, and virtually smooth—much as in a few available specimens of *pictus* from Bahia (AMNH R-131859–131860).

Wied illustrated, described, and measured one specimen of *Agama picta*, although there is heretofore unpublished indication that at least one other specimen might have been

[22] AMNH R-120470 (ex MZUSP 38381), a paratype collected by B. Faria in 1975, and AMNH R-119750–119752 collected by Myers in 1979.

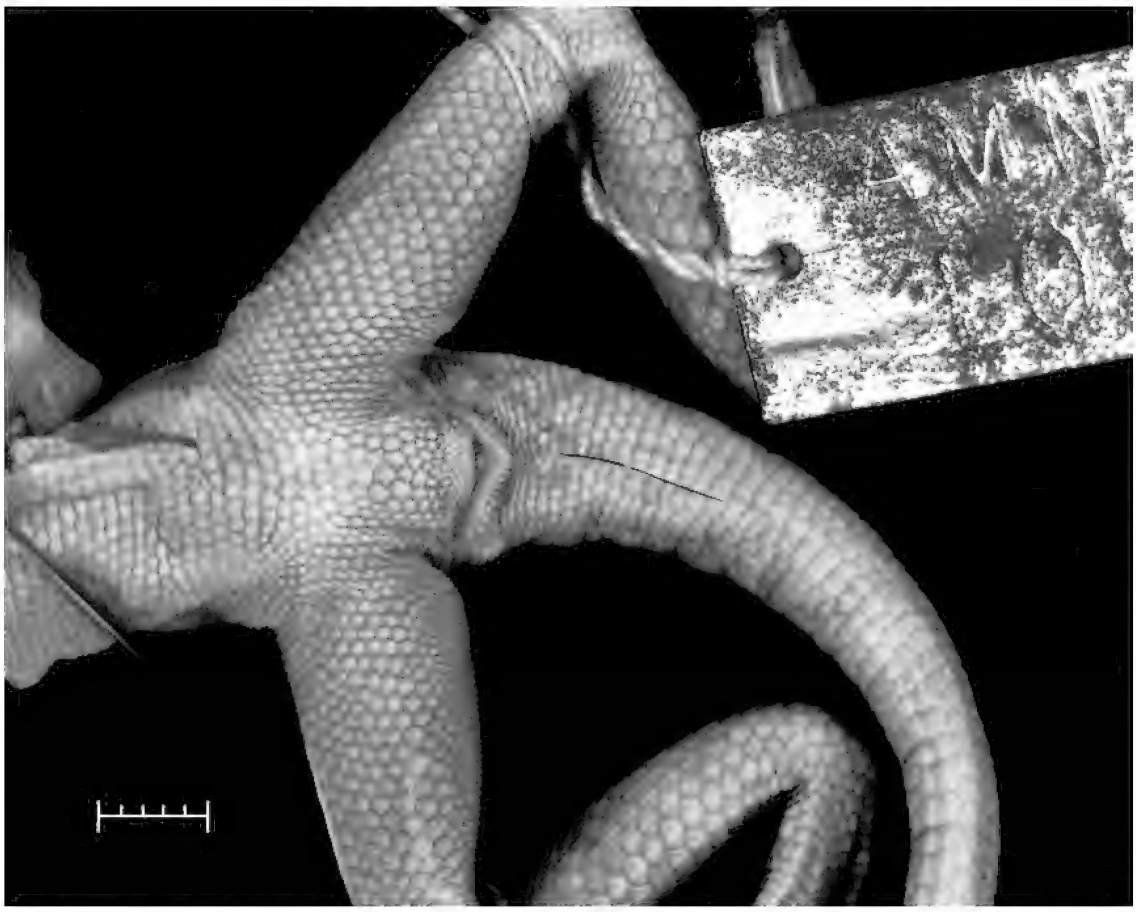


Fig. 7. Holotype of *Agama picta* Wied. Details of hindquarters in ventral view (AMNH R-108); 5 mm scale line.

preserved (see below). Wied's published measurements (in *Abbildungen* and *Beiträge*) convert to 86 + 189 = 275 mm, compared with our recent measurements of the now-flaccid specimen of 90 + 197 = 287 mm. The *Abbildungen* plate (see pl. 10) shows the lizard with a small erect gular sac,[23] described in the *Beiträge* as loose skin under the throat that puffs up when the lizard is excited; the skin under the throat of AMNH R-108 seems loose enough to form a small fold in profile (fig. 8). Wied implied that the belly scales are smooth when he mentioned that those on the chest are somewhat keeled, which is exactly the case in AMNH R-108. (In the *Beiträge*, Wied noted that the scales of *Agama catenata* are mainly as in *A. picta*, one of the few differences being that they are keeled on the under parts of *catenata*.)

We think that AMNH R-108 represents Wied's *Agama picta* and, although we cannot say with absolute assurance that it is the same specimen illustrated and described, we provisionally regard it as the holotype of that species, thereby setting aside Etheridge's (1969: 240) designation of a neotype (ICZN, 1999: article 75.8). This view could be disproved were it shown that the illustrated color pattern is actually *confined* to males as implied by Jackson (1978: 21–22), who described variant patterns in the few females available to him, in contrast to Etheridge (1969: 241) who stated that "The pattern is equally vivid in both sexes."

[23] *Enyalius* is supposed to lack a gular pouch according to Etheridge (1969: 256), but there is no mistaking the structure in plate 10.

Fig. 8. *Agama picta* Wied. Inset (**A**) showing orange-pigmented tongue and small dewlap. Pen-and-watercolor illustration (**B**) made by Prince Maximilian at Morro d'Arara in March 1816, with descriptive field identification "*Lacerta fasciata* (m)." The *Abbildungen* plate (see pl. 10) was prepared from this sketch. Detailed study (**C**) of a tail, from a different specimen than shown in the life drawing. Wied's handwritten explanation to artist (from typescript in Bosch, 1991: 238): *Schwanz der Agama picta. um etwa die Vertheilung der Schuppen für den Kupferstecher genauer zu haben. In a. und b.*[regenerating tail at break] *sind die Schuppen aus Versehen verschieden gezeichnet, sie sind aber am ganzen Schwanze überall gleich roß, klein und 4-eckig in Reihen gestellt.* ("Tail of *Agama picta.* In order to prepare for the copperplate engraving [see pl. 10], the scales are drawn differently in a and b; along the entire tail, however, the small square scales are equally disposed in rows.") From Bosch (1991: 238–239), courtesy of the Brazilian Library of Robert Bosch GmbH, Stuttgart.

The plate is very colorful (see pl. 10), although the colors may now differ a bit from Wied's field sketch painted at Morro d'Arara in March 1816, which is reproduced here (from Bosch, 1991: 239) as figure 8. Wied's descriptive field identification on the sketch reads "*Lacerta fasciata* (m)." Wied's determination of the specimen as male almost certainly was due to the small extended gular pouch, which seems about as large in AMNH R-108, a female. The gular pouch also is extended in one of two quick sketches of the head, which show that the tongue was orange like the gular pouch (fig. 8). Wied's field

painting and the specimen were used by an illustrator (H.J. Beckers) to prepare the published plate (compare fig. 8 with pl. 10); the work was critiqued by Wied (in a back section of the *Beiträge* 604), who commented that while the color and habitus were correct and the scales of the head were fairly accurate, the body scales were less accurately copied by the illustrator.

The above field sketch is accompanied in Bosch (1991: 239) by a separate study of a tail, which must have been drawn sometime later, after Wied's return home to Neuwied since it is labeled *Agama picta* (vs. *Lacerta fasciata* on the field sketch). The tail sketch emphasizes an "error" in scutellation (a regeneration event). This cannot be matched on AMNH R-108, indicating that Wied had at least two specimens of *A. picta*. Possibly he interpreted this as a character and instructed his illustrator to include a drawing of the tail in the published plate. Although it is not a very good representation, the illustrator obviously saw nothing unusual, as would be expected if he were drawing from the present AMNH R-108.

Type Locality: Wied had only a single locality for *Agama picta*, which therefore is the type locality. In the *Abbildungen* it was given as "*Morro d'Arara* am Flusse *Mucurí*," and in the *Beiträge* as "*Lagoa d'Arara* am *Mucurí*." Etheridge (1969: 240) seemed to interpret "Lagoa d'Arara am Mucurí" as two localities, and, on that basis, he incorrectly restricted the type locality to the town of Mucuri at the mouth of the Rio Mucuri (18°05′S, 39°34′W), some distance from the actual locality.

Morro d'Arara was *on* the Lagoa d'Arara—the names are interchangeable in Wied's publications—above the lake's outlet to the Rio Mucuri. At the time of Wied's visit, Morro d'Arara was a new fazenda whose name meant "Araraberg"[24] (*Reise* 1: 249–250). According to Wied (*Reise* 1: 250, 252), Morro d'Arara was reached in a day and a half up the Rio Mucuri. Entrance to the Lagoa d'Arara was through a narrow, shady channel on the north side of the Mucuri, with Morro d'Arara another quarter hour up the Lagoa d'Arara—described as a fine lake of fair size, encompassed by forested mountains. Bokermann (1957: 224) placed Morro da Arara on the margin of the Rio Mucuri, about 30 km from its mouth, and Vanzolini (1992: 24) provided the approximate coordinates 18°06′S, 39°48′W.

The above account and the one following were prepared several years ago. Since then the phylogeny has been partially elucidated by Rodrigues et al., 2014. Subspecies of *Enyalis* are no longer recognized.

Agama catenata Wied, 1821
Plate 11

1821 *Reise* 2: 247.
1824 *Abbildungen*: Lief. 15.
1824 *Isis*: 663 (name listed with reference to the *Abbildungen*).
1825 *Beiträge*: 131.

Present Status: *Enyalius catenatus* (Wied, 1821) fide Rodrigues et al., 2006, who elevated all named subspecies to full species status. Plate 11 shows a lost syntype of *Enyalius catenatus* (Wied).

Remarks: Wied gave measurements for one specimen of *Agama catenata* in the *Reise*, illustrated one specimen (see pl. 11) with different measurements in the *Abbildungen*, and described and measured two specimens in the *Beiträge* (the larger corresponding to the *Abbildung* text, but measurements for the original *Reise* specimen were not repeated). The largest of his three specimens (84 + 167 = 251 mm) is smaller than the presumed holotype of *Agama picta* (see above).

The considerable confusion concerning the type specimen of Wied's *Agama catenata* is discussed above, under *Agama picta*. There are no *catenata* specimens extant in the Maximilian collection, and no indication that any of Maximilian's several specimens of the species ever reached the American Museum.

Jackson (1978: 20) cited the type locality as "Sertong der Capitania da Bahia" (the back country of Bahia), but, as earlier noted by Etheridge (1969: 244), the original description (*Reise* 2: 247) seemed to be based on a specimen taken at Cabeça do Boi, a specific place that can reasonably be considered the type locality.

[24] *Araraberg*—hill of the araras, common name for the Scarlet Macaw (*Ara macao*). Wied had a long encampment at Morro d'Arara on Lagoa d'Arara (Feb. 5–July 23, 1816), which is the type locality of his *Anolis viridis*, *Agama picta*, *Coluber formosus*, and *Rana macrocephala*.

Enyalius catenatus seemed to be encountered frequently enough for Wied to believe that it does not occur south of parallel 16° S, very roughly the southern limit shown in Jackson's map for "*catenatus* x *pictus*" intergrades (Jackson, 1978: fig. 20). (Some if not all of the more southern localities mapped by Etheridge [1969: fig. 10A] were considered by Jackson to represent *E. perditus*.)

Enyalius catenatus (Wied, 1821) predates three nominal species named by Spix (as *Lophyrus*). The type material for these names still exists and all were confirmed as synonyms of *E. catenatus* by Hoogmoed and Gruber (1983: 383).

Tropidurus torquatus (Wied, 1820)
Plate 12

1820 *Reise* 1: 106 (Stellio torquatus).

1821 *Reise* 2: 146.

1824 Abbildungen: Lief. 6 (diagnosis, *Tropidurus torquatus*).

1824 *Isis*: 663 (diagnosis, *Tropidurus torquatus*).

1825 *Beiträge*: 139, 605.

PRESENT STATUS: (*Tropidurus torquatus* Wied, 1820).

REMARKS: *Tropidurus torquatus* is most fully discussed in the *Beiträge*, where Wied cites two places in the first volume of the *Reise*: the first reference to page 36 is mistaken, and that to page 106 refers to the original 1820 description of *Stellio torquatus*. The reference in the second volume of the *Reise* is incidental.

Tropidurus is the only genus named by Wied. The type locality of the type species (by monotypy) *Stellio torquaus* is Paulista, as pointed out by Müller (1927: 284). It is species no. 44 in Maximilian's 1860 manuscript catalog, where it is listed as "*Ecphymotes torquatus* (*Tropidurus* W.)." There are no specimens in the collection and no indication that any of the syntypes ever reached the American Museum. The generic name is diagnosed in 1824 in *Isis* and in the *Abbildungen*.

The original footnote description of *Stellio torquatus* deals mostly with variability in color pattern. In the *Abbildungen* two very good figures are given on one plate, one of an adult in side view and one, especially good, of a juvenile in dorsal view. The plate (see pl. 12 herein) is labeled *Stellio torquatus*. Wied started this discussion by stating a notion that had preyed on him for several years, namely that his *torquatus* was similar or identical with Seba's "*Stellio Quetz-Paleo*" (Seba, 1734 [1734–1835]: vol. 1, tab. 97, fig. 4, between pp. 152 and 153).

The American Museum copy of the *Abbildungen* contains two copies of the descriptive letterpress text. One is an undated replacement sheet provided to subscribers, with an attached *Zur Nachricht* ("notice") on a slip of paper identifying it as belonging to the sixth Lieferung. There are differences in both the German and French texts, but we shall comment only on the former (which always appears first and is generally given priority in matters involving the *Abbildungen*).

The generic diagnosis from the original 1824 letterpress sheet follows (in text immediately preceding, Wied repeated his original suspicion [from *Reise* 1] that this lizard probably is Seba's *Quetzpaleo*).

> (*) *Tropidurus*. Gatinugs-Keunzeichen. Kopf mit Schildern bedeckt; am vordern Rande des Ohres spitzige Schuppen; Kehle geschuppt, ohne Kropf; Schwanz geringelt, die Schuppen desselben spitzig und gekielt, bilden mehrere fortgesetzte Längskiele; Rücken und Bauch mit Schuppen bedeckt; Schenkel ohue Porenreihe.

The generic diagnosis was reworked in the later replacement sheet, as follows:

> (*) *Tropidurus*. Gattuungskennzeichen: Kopf geschildet; Zähne an jeder Seite mit einem Ausschnitte; Ohr an seinem vordern Rande mit verlängert Schuppen (Stachelschuppen) besetzt; Kehle schuppig, ohne Kehlsack; Schwanz mit mässiggrossen, stachelig gekielten Schuppen bedeckt, welche mehrere Lägskiele bilden; Schenkelöffnuggen fehlen; Rückeu und Bauch schuppig.

The first species diagnosis contains only minor rewording for the replacement sheet (*En schwarzer Streif* becomes *Ein schwarzer Streifen;* and the tail, instead of being *länger als der Körper* becomes *länger als gewöhnlich*.) But previous references to "*Stellio ...*" or "*Lacerta brasiliensis* Quetzpaleo. Seba...," are dropped in the replacement sheet, where Wied states that, despite the resemblance, Seba's lizard is different, as will be shown

elsewhere (i.e., see Wied, 1828, *Nova Acta* series). The replacement sheet has an added reference to "Meine Beitr. zur Naturg. von Bras. B.1. pag. 139"—a page reference showing that the sheet must have been issued after proof was seen for the 1825 *Beiträge*, but before 1828, when Wied's *Acta Nova* paper appeared. In that paper Wied decided that *Tropidurus* was closest not to Seba's lizard but to another iguanid—*Uromastyx cyclurus* Merrem (1829: 56).

The last is indeed "different," as Wied said it was)," but it too was close to Seba's *Quetzpaleo* according to Merrem's (loc. cit.) footnoted comparison with the earlier name, *Cordylus brasiliensis* Laurenti (1768: 52). In naming the last, Laurenti (1768: 52) credited the *Cordylus* to "Var. ß. (Seba I. 97. 4.)" See also Wagner (1833).

Wied's genus *Tropidurus* now holds 26 species of South American and Galápagos lizards (Uetz and Hošek, 2015).

Teius monitor, Merrem
Plates 13, 14

1820 *Reise* 1: 61, 159 (*La erta teguixin*).
1821 *Reise* 2: 138, etc.
1824 *Isis*: 663 (diagnosis).
1825 *Beiträge*: 155, 598.
1827 *Abbildungen*: Lief. 11 (2 pls.).

PRESENT STATUS: *Tupinambis teguixin* (Linnaeus, 1758).

REMARKS: The mentions in the *Reise* are incidental. The treatment in the *Beiträge* comprises several specimens. Measurements are given of two very large specimens, one with regenerated tail. Two plates in the *Abbildungen* show lateral and ventral views.

There are no specimens in the collection.

Teius ameiva, Merrem
Plate 15

1820 *Reise* 1: 88.
1821 *Reise* 2: 337.
1824 *Isis*: 664 (diagnosis, with reference to *Reise* 1, 2, and to *Abbildungen*).
1824 *Abbildungen*: Lief. 5 (fig. 1 of composite pl.).
1825 *Beiträge*: 170.

PRESENT STATUS: *Ameiva ameiva* (Linnaeus, 1758).

REMARKS: The only specimen in the collection is AMNH R-615, presumably collected at Cabo Frio. It agrees well with the plate.

Teius cyanomelas Wied, 1824
Plate 15

1824 *Abbildungen*: Lief. 5 (fig. 2 of composite pl.).
1824 *Isis*: 664 (no diagnosis, only reference to the *Abbildungen*).
1825 *Beiträge*: 180.

PRESENT STATUS: *Cnemidophorus nativo* Rocha et al., 1997, a nomen protectum designated by Myers et al. (2011: 13), now available as *Ameivula nativo* (Rocha, Bergallo and Peccinini-Seale, 1997).

REMARKS: Peters and Donoso-Barros (1970: 94) credited *Teius cyanomelas* Wied to the 1825 *Beiträge*, but publication dates from the 1824 *Abbildungen* plate (the 1824 *Isis* article lacks a diagnosis). Wied had one specimen that he figured and named *Teius cyanomelas*. The type locality is open areas near the mouth of the Rio Mucuri (Bahia, Brazil). The species is listed as "*Ameiva* (*Teius* W.) *cyanomelas* W." in Wied's handwritten 1860 taxonomic catalog, but the specimen seemingly disappeared after that and was not in the collection that reached the American Museum only a decade later.

Wied's original, never-published manuscript name for *cyanomelas* was "*Lacerta 5-lineata*," based on the specimen taken at Mucuri, April 20, 1816. His watercolor-and-pen field sketch, with name and data added by his hand, is reproduced in Bosch (1991: 237). It clearly is the sketch copied by Wied's artist for publication in the *Abbildungen* as *Teius cyanomelas* (Wied, 1824, Lief. 5).

Myers et al. (2011: 5, 7, 9–11, fig. 2) clarified the nomenclatural history of this species, which was discovered by Wied: He supplied his manuscript name *Teius cyanomelas* to H.R. Schinz, who published it as *Lacerta cyanomelas*. But neither *Lacerta cyanomelas* Schinz, 1822 nor *Teius cyanomelas* Wied, 1824, was used as a valid name after 1899 and both are qualified as nomena oblita, whereas the relatively well-known junior name *Cnemidophorus nativo* Rocha et al., 1997, was designated the valid name

under provisions of the Code (ICZN, 1999: art. 23.9.1.2).

Lacerta striata Daudin
Plate 16

1824 *Isis*: 664 (listed).
1825 *Beiträge*: 186.
1829 *Abbildungen*: Lief. 13.

PRESENT STATUS: *Kentropyx calcarata* Spix, 1825 (a nomen protectum designated by Myers et al., 2011: 12).

REMARKS: Wied described and illustrated one specimen. The plate is a lizard in lateral view in color, with an uncolored ventral view showing details of scutellation. There are no specimens in the collection.

Myers et al. (2011) clarified the nomenclatural status of Wied's lost specimen. *Lacerta striata* sensu Wied (non Daudin nec sensu Merrem) was a misidentification of Daudin's (1802) species; the name sensu Wied is an unavailable name in the sense of the Code (ICZN 1999, art. 49). Wied's specimen had represented an unnamed species, for which he had intended the manuscript name "*Lacerta vittata*," but he subsequently misidentified it as *Lacerta striata* Daudin, 1802, based on Merrem (1820: 65).

Wied never published the name "*Lacerta vittata*," but he had transmitted it to Schinz, who qualified it as an available name (Schinz, 1822). Hoogmoed (1973: 301) concluded that Schinz's unused name is a senior synonym of *Kentropyx calcarata* Spix, 1825, but never submitted a petition to conserve Spix's well-known name. Myers et al. (2011) qualified the senior name *L. vittata* Schinz, 1822, as a nomen oblitum and the junior name *Kentropyx calcarata* Spix, 1825, as a nomen protectum.

Scincus sloanei Daudin
Plate 17

1824 *Isis*: 664 (listed).
1825 *Beiträge*: 195.
1829 *Abbildungen*: Lief. 13.

PRESENT STATUS: *Mabuya* sp.

REMARKS: This is certainly a species of *Mabuya*. At present there is no way of identifying the figure.

There are no specimens in the collection.

Scincus striatus Daudin

1825 *Beiträge*: 196.

PRESENT STATUS: *Mabuya* sp.

REMARKS: Daudin never described a *Scincus striatus*. Wied's reference to page 296 in volume 4 (1802) of Daudin's (1801–1803) *Histoire Naturelle...des Reptiles* shows that the name was simply a lapsus or misprint for *Scincus tristatus* Daudin, a synonym probably of the North American *Eumeces laticeps* (Sch-neider, 1801) fide Taylor (1936: 212). Wied's species is another *Mabuya* (probably the same as the preceding species), not yet identifiable.

There are no specimens in the collection.

Gymnophthalmus quadrilineatus, Merrem
Plate 17

1824 *Isis*: 664 (listed under *Gymnophthalmus* as "*S.*" *quadrilineatus*" [lapsus]; diagnosis).
1825 *Beiträge*: 198.
1829 *Abbildungen*: Lief. 13.

PRESENT STATUS: *Micrablepharus maximiliani* (Reinhardt and Lütken, 1862), designated by Myers et al. (2011: 12) as a nomen protectum.

REMARKS: Wied had a manuscript name for this species that he never published (see below). In the *Isis* of 1824 he misidentified the species as "*S*[*cincus*]. *quadrilineatus*," and continued the misidentification in the *Beiträge* under the name "*Gymnophthalmus quadrilineatus* Mer[em]." Wied's reference to the *Abbildungen* on page 198 of the *Beiträge* anticipated the plate that was to appear four years later. There are no specimens in the collection.

"*Gymnophthalmus quadrilineatus*" as used by Wied is an unavailable name because *Lacerta quadrilineata* Linnaeus is the type species of *Gymnophthalmus* Merrem (1820: 74). Based on new specimens and Wied's unavailable name *G. quadrilineatus*, Reinhardt and Lütken (1862: 211) honored Wied by naming *Gymnophthalmus maximiliani*. Boulenger (1885: 426) referred both *G. quadrilineatus* and *G. maximiliani* to Boettger's (1885) recently named genus *Micrablepharus*, with *M. maximiliani* a senior synonym of the nominal type species (*M. glaucurus* Boettger).

Wied's prior but unpublished manuscript name for this species was *Scincus cyanurus*. Myers et al. (2011: 8) noted that Wied

> had a lizard not previously described.... [His] description is clear and calls attention to the bright blue tail of the species (not shown in the *Abbildungen* plate because the sky-blue color disappears completely in preservative fide Wied, 1825a: 203, 204). It is the only blue-tailed lizard living in an area traveled by Wied.

Although Schinz (1822) qualified the name given to him by Wied, *Scincus cyanurus* Schinz went unused and is a forgotten name. It has been qualified as a nomen oblitum and a well-known younger name (*Micrablepharus maximiliani*) qualified as a nomen protectum. This action also solved the problem of homonymy between *Scincus cyanurus* Schinz, 1822, and *Scincus cyanurus* Lesson, 1826 (*Emoia cyanurus*), a widespread Pacific skink. (For references see Myers et al., 2011: 8, 12–13).

Boa constrictor Linnaeus

1820 *Reise* 1: 88, 359.
1821 *Reise* 2: 171.
1824 *Isis*: 664 (listed).
1825 *Beiträge*: 211, 599.

PRESENT STATUS: *Boa constrictor* Linnaeus, 1758.

REMARKS: The references in the *Reise* are incidental. The treatment in the *Beiträge* is detailed, but without measurements or scale counts.

Boa cenchria Linnaeus
Plate 18

1824 *Isis*: 664 (diagnosis).
1824 *Abbildungen*: Lief. 6.
1825 *Beiträge*: 219, 605.

PRESENT STATUS: Although individual variation is not well documented, the snake in plate 18 seems to be *Epicrates cenchria* (Linnaeus, 1758), based on such characters as the lateral head stripe extending from the snout through the eye to end of mouth, and the sharply bicolored albeit flattened lateral blotches.

REMARKS: For many years only a single continental species of *Epicrates* was recognized, although subspecies had been described (e.g., Machado, 1944; Amaral, 1955). Recently, however, Passos and Fernandes (2008) and Rivera et al. (2011) independently concluded that there are five distinct continental species: *E. alverezi, E. assisi, E. cenchria, E. crassus,* and *E. maurus.* Passos and Fernandes (2008: 28–29) give locality records for four species in Brazil, but their editor showed poor judgment in allowing the distribution map (fig. 8) to be printed so small as to be nearly useless. Hemipenial structures (fig. 7) appear supportive of species distinctness.

There are no specimens extant in the Maximilian collection.

Boa aquatica Wied, 1823
Plate 19

1820 *Reise* 1: 358–359 (*Boa anaconda*).
1821 *Reise* 2: 171 (Boa anaconda).
1823 *Abbildungen*: Lief. 2 (Boa aquatica).
1824 *Isis*: 664 (reference to the *Abbildungen*).
1825 *Beiträge*: 226, 604, pl. 3 (figs. 1–2).

PRESENT STATUS: *Eunectes murinus* (Linnaeus, 1758).

REMARKS: The mentions of *Boa anaconda* in the *Reise* are incidental: they deal with details of color pattern, size, and distribution. The name *Boa aquatica* was proposed in 1823, in Lieferung 2 of the *Abbildungen*, clearly as a substitute for other names (*Boa scytale, anaconda, gigas, murina*) previously used by Linnaeus, Schneider, Daudin, Latreille, and Merrem. The reason was not systematic, but, as we read in the *Beiträge*, to stress the aquatic habits of the animal, which deeply impressed Wied. Since it is a generalized substitute name, the use of *Boa aquatica* is subjective and not clearly part of any strict synonymy; Peters and Orejas-Miranda (1970: 114) give "Brazil" as the type locality.

In the *Beiträge*, Wied mentioned seeing an anaconda nearly 6 m in length, with details of color pattern, size, and distribution. The name *Boa aquatica* was proposed in 1823, in Lieferung 2 of the *Abbildungen*, clearly as a substitute for other names (*Boa scytale, anaconda, gigas* and he gives detailed measures for a specimen of 2.8 m.

There are only three anacondas (AMNH R-3031–3033) in the Maximilian collection, but they are very young specimens lacking locality data; these specimens cannot be associated with Wied's

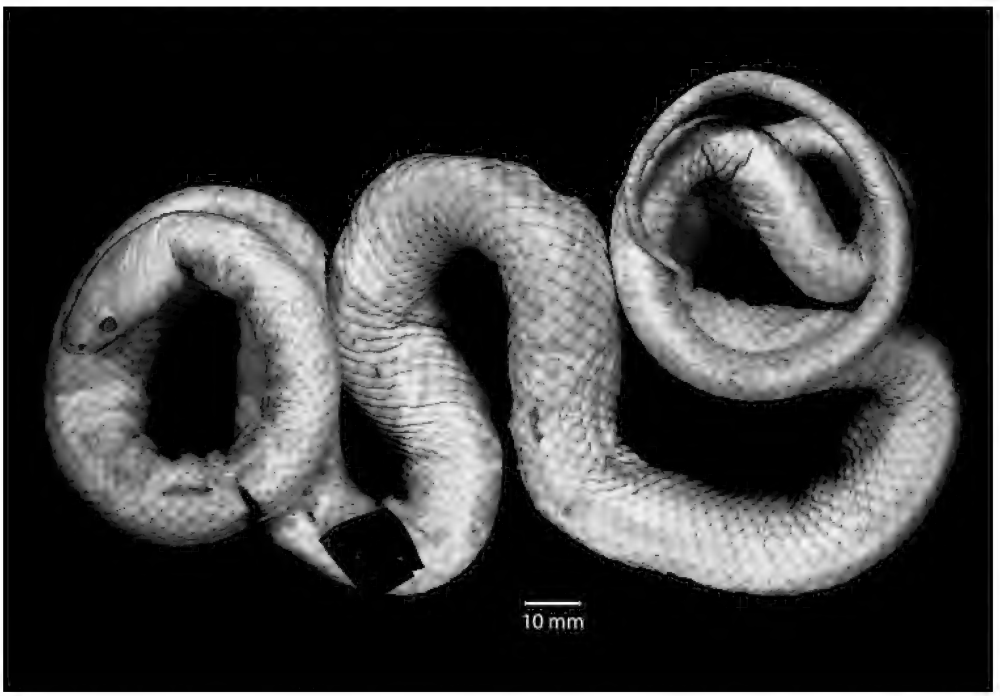


Fig. 9. Prince Maximilian's specimen of "*Scytale coronata*," a syntype (now paralectotype) of the later described *Pseudoboa neuwiedii* (Duméril, Bibron, and Duméril, 1854). *Pseudoboa neuwiedii* was a composite species, with a simultaneously named variety *Nigrum*. Wied's specimen is today considered to represent *Pseudoboa nigra* (Duméril, Bibron and Duméril, 1854). AMNH R-2151♂ (see pl. 20 for color in life).

publications or his manuscript catalog. Dirksen and Böhme (1998: 54–55) note that the three specimens resemble zoo hybrids between *Eunectes murinus* from Trinidad and *E. notaeus* from Paraguay, but their statement that these Maximilian specimens came from Brazil was an assumption that is not supported by AMNH catalog data. (The specimens conceivably might have been acquired by Maximilian in exchange or by purchase long after his Brazilian expedition; in any case, there seems to be no immediate way of determining a probable geographic source.)

Scytale coronata, Merrem
Plate 20 and figure 9

1824 *Isis*: 665 (diagnostic description of *S. coronata* sensu Merrem, from *Pseudoboa coronata* Schneider).

1824 *Abbildungen*: Lief. 7.

1825 *Beiträge*: 241.

PRESENT STATUS: Wied's specimen = *Pseudoboa nigra* (Duméril et al., 1854), as determined by J.R. Bailey in 1940. It also is a syntype (now a paralectotype) of *Pseudoboa neuwiedii* (Duméril et al., 1854), as discussed below.

REMARKS: There is only one specimen, now AMNH R-2151 (fig. 9) (species no. 154 in the manuscript catalog), which was described and illustrated by Wied. Data from the *Beiträge* include, converted length 623 + 245 mm, ventrals 200, subcaudals 95. AMNH R-2151 measures 658 + 250 mm, has 1992 ventrals (counting two small "preventrals") and 95 unpaired subcaudals. The specimen is very faded and the original color pattern cannot be determined (what initially appear to be traces of markings seem to be old discolored areas of abrasion or other artifacts of preservation). Wied's plate shows a brown-headed snake with a nearly colorless, very pale grayish body, which is sparsely marked with a blackish nape bar, a broad black band (about 6 scales long) anteriorly on the body, two small irregularly shaped black blotches (one behind the broad

band, the other near the end of the body), and some irregularly distributed dark gray scales, mostly on the anterior half of the body. The plate includes dorsal and ventral outlines of the head, which were compared directly with the specimen. Convincing evidence that the drawings were based on AMNH R-2151 is provided by the disposition of the two gular scales that are in asymmetrical contact with the posterior genials and flank the first small ventral (or "preventral"); the second, larger ventral ("preventral") is flanked on each side by a scale that is not part of the first dorsal row.

Wied misidentified this specimen as *Scytale coronata* Schneider, a species that does not occur in the Atlantic Forest. In 1854 Duméril, Bibron, and Duméril, in the seventh volume of the *Erpétologie Générale*, described *Scytale neuwiedii* (= *Pseudoboa neuwiedii*), explicitly referring to Wied's plate and to the description in the *Beiträge*; in the same account, Duméril et al. named a second (*Scytale neuwiedii*) variety *Nigrum*[25] (= *Pseudoboa nigra*) and also mentioned a third variety that was left unnamed. Boulenger (1896: 112) recognized that the original description of *Scytale neuwiedii* was a composite and (as first reviser) restricted the name to the species occurring north to Venezuela and Panama, but he maintained Wied's description of "*coronata*" in the synonymy of *neuwiedii*. In first recognizing *Pseudoboa nigra* as a valid species, and in associating Wied's plate with it, Bailey (1940: 76, 80) observed that

> The majority of the typical material [of *neuwiedii*] represents *nigra* as well as most of the synonymy and the description of the nasal bones. But specimens of *neuwiedii* are included and Boulenger (1896: 112–113) recognized the complex.... However, he erred in identifying the remainder of the complex (*nigra*) with *Rhinosimus* (= *Phimophis*) *guerini* Dumeril and Bibron. The name *nigra* then, with type locality Bahia, is resurrected for the second and third varieties of Dumeril and Bibron and for the *Oxyrhopus guerini* of Boulenger.

Even though Wied's specimen was not handled by Duméril and Bibron (1834–1854, 7: 1001–1002), their concept of the composite *Scytale neuwiedii* clearly included Wied's description and especially the color plate of "*Scytale coronata*." AMNH R-2151 therefore is a syntype of *Pseudoboa neuwiedii* (Duméril, Bibron, and Duméril) under modern standards of nomenclature (ICZN, 1999: arts. 72.4, 73.2.1). AMNH R-2151 became a paralectotype of *Pseudoboa neuwiedii* owing to the action of Hoge and Lancini V. (1960), who designated another syntype as lectotype.[26]

However, Wied's specimen belongs to Duméril, Bibron, and Duméril's variety *nigrum*, now recognized as *Pseudoboa nigra*. Since Duméril et al. did not specifically associate Wied's plate with their variety *nigrum*, the specimen would not seem to reasonably qualify as an syntype *explicitly* of that species. Nonetheless, it and all the other original specimens of *Pseudoboa nigra* became paralectotypes of *P. neuwiedii* after the designation of a lectotype for *neuwiedii*. Although paralectotypes are said to have no name-bearing function (ICZN, 1999: art. 73.2.2), any of the original *P. nigra* specimens presumably are available for lectotype designation of *that* species. However, anyone needing to designate a lectotype for *P. nigra* (assuming that it has not been done) should give first consideration to the Paris museum specimen obtained in Bahia by Lemelle-Deville, as singled out by Duméril et al. (1854 [1834–1854], vol. 7: 1002) when establishing their variety *nigrum*.

AMNH R-2151 is represented in Maximilian's 1860 manuscript catalog as species no. 154–"[*Scytale*] *Wiedii* D.B. (*Sc. coronata* Wied)"; the locality is "Brasilien," but in the *Abbildungen* and *Beiträge* he noted that it came from a sandy place between the rivers S. Matthaeus (Rio São Mateus) and Doçe (Rio Doce) at about 19° south latitude.

[25] Stimpson (1974) noted that this name was a junior primary homonym of *Scytale niger* Daudin (= *Heterodon platirhinos*), an unused name that was suppressed by the International Commission on Zoological Nomenclature in 1981 (ICZN, 1981).

[26] These authors designated as lectotype the Paris Museum specimen cited by Duméril et al. (1854: 1002) as having been collected by "Bauperthuis" [Beauperthuy] at "Côte-Ferme," which therefore automatically became the type locality of *Pseudoboa neuwiedii*. Based on historical evidence, Hoge and Lancini (1960) interpreted Beauperthuy's "Côte-Ferme" as being in the vicinity of the city of Cumaná in Estado Sucre, Venezuela. This was a clarification or determination of type locality, not a subjective "type-locality restriction" of the sort that was commonplace in some branches of 20th century taxonomy.

Coluber poecilostoma Wied, 1824
Plates 21–22 and figure 10 (lectotype)

1824 *Isis*: 665 (diagnosis, 2 color phases).
1825 *Beiträge*: 250.
1827 *Abbildungen*: Lief. 10 (2 pls.).

PRESENT STATUS: Pseustes sulphureus poecilostoma (Wied, 1824).

REMARKS: The species was first named in the *Isis* for 1824, prior to the subsequent treatments in the *Beiträge* and in Lieferung 10 of the *Abbildungen*.

The diagnosis in the *Isis* recognized two varieties, distinguished by the color of the throat and lips. Both varieties were well illustrated in the *Abbildungen*, with two color plates showing yellowish-gray and slightly greenish-gray snakes having irregular, dark gray crossbands on the dorsa, black-edged labials, and the tops of the head red-brown. These plates were differentiated as A and B in the accompanying text, and are reproduced herein as plates 21 and 22, respectively:

Plate A [21]. Caninana de papo amarello (Kehle und Kiefer-Einfassung schön gelb). The corresponding plate shows the lips, side of throat, and ventrolateral edging all golden yellow.

Plate B [22]. Caninana de papo vermelho (Kehle und Kiefer-Einfassung rothbraun). The lips are red-brown like the top of the head, turning lighter reddish on the side of the throat and ventrolaterally. This plate also includes uncolored outline drawings of the dorsal and ventral sides of the head.

The description in the *Beiträge* is complex, recognizing several varieties, including the two above. The first specimen of *Coluber poecilostoma* mentioned in the *Beiträge* is the variety "B"; it measured 1355 + 452 mm, had 214 ventrals and 126 subcaudals. The only extant specimen in Maximilian's collection is AMNH R-3480, a male, which is broken into two pieces, from which we obtained SVL and tail measurements of 1290 + 480 mm; ventrals cannot be counted; subcaudals are 129. A decisive test is the comparison of the pattern of head scales with dorsal and ventral head outlines in plate B. Agreement is remarkable.

We therefore think that AMNH R-3480 (fig. 10) is the specimen shown in plate B, and also that it probably is the first specimen described in the *Beiträge*. It seemingly is the only surviving syntype and we consequently designate AMNH R-3480 as the lectotype of *Coluber poecilostoma*.

Coluber liocercus Wied, 1824
Plate 23 and figure 11 (holotype)

1824 *Isis*: 665 (diagnosis).
1825 *Beiträge*: 265.
1831 *Abbildungen*: Lief. 14.

PRESENT STATUS: *Leptophis ahaetulla liocercus* (Wied, 1824).

REMARKS: The original description is in the *Isis* for 1824. Only one specimen is described in the *Beiträge*. It measured 793 + 438 mm, and had 159 ventrals and 147 subcaudals. AMNH R-3531, a male, measures 720 + 425 mm, has 161 ventrals and 146 subcaudals. The head scales agree perfectly with the plate.

Oliver (1948: 234) thought that this specimen was the type and, in spite of the disagreement in measurements, we agree that AMNH R-3531 is the holotype of *Coluber liocercus*. Oliver (1948: 234) stated that "The coloration [of AMNH R-3531] is not like that shown in Wied's color plate (head and neck green, rest of body and tail bronzy brown, the body darkened by black streaks on the keels; first scale row unkeeled, paler brownish like ventral surfaces), but the specimen has lost all of the stratum corneum and cannot be expected to have retained all details of coloration." The specimen is faded (fig. 11) and differs most noticeably from the plate in now lacking the conspicuous black keeling. It must be noted that the plate shows a dorsal color pattern that Vanzolini has never seen in an eastern Brazilian specimen.

It is impossible to settle on a specific type locality for this snake. No localities are given in the *Isis* or in the *Abbildungen*. The *Beiträge* mentions too many localities—covering the coast of Rio de Janeiro and Espirito Santo from Maricá to Vitória.

Coluber variabilis Kuhlii Wied, 1824
Plate 24 and figure 12 (holotype and syntype)

1824 *Isis*: 665 (diagnosis of *C. variabilis Kuhlii*).
1825 *Beiträge*: 271.

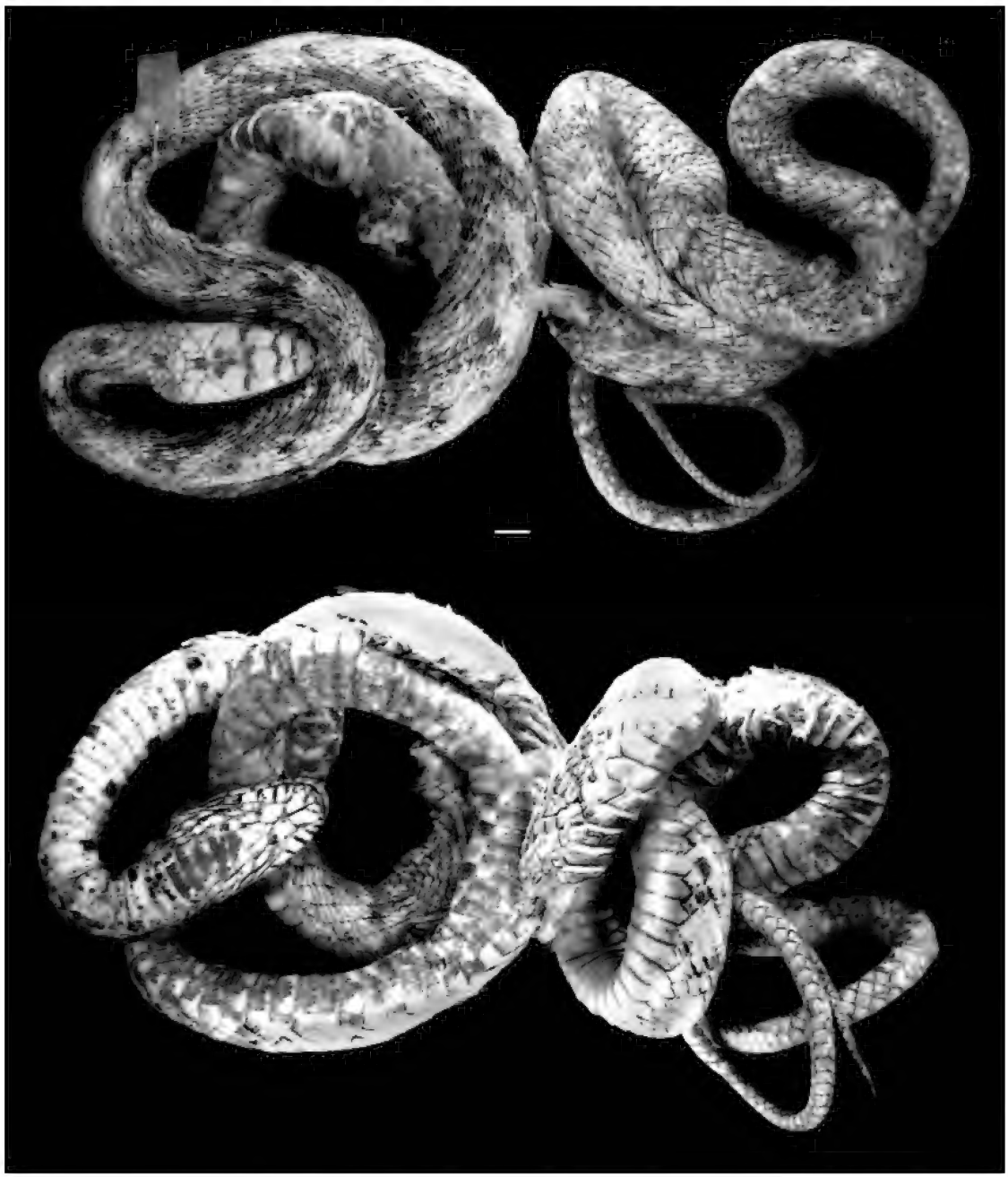


Fig. 10. Lectotype of *Coluber poecilostoma* Wied, in dorsal and ventral view (AMNH R-3480). Scale line = 10 mm.

1831 *Abbildungen*: Lief. 14 (figs. 3–6 of composite pl.).

PRESENT STATUS: *Spilotes pullatus* (Linnaeus).

REMARKS: Wied unexpectedly used a latinized trinomial (*Coluber variabilis Kuhlii*) for this taxon, when he first named it in the 1824 *Isis*. The spelling was maintained in the 1825

Fig. 11. Holotype of *Coluber liocercus* Wied (AMNH R-3531).

Beiträge. Wied, however, evidently came to doubt its appropriateness and the name was changed to a binomial both in plate 24 and the accompanying letterpress text[27] in the 1831 *Abbildungen.* The binomial there is followed by a comma and then, in smaller font, the name Kuhlii in position of authority. The reference is to "Dr. *Kuhl* aus Leiden, er hatte sie mit *Merrem Coluber vatiabilis* genannt." This first or earlier *"Coluber variabilis* Merrem" is cited in Peters and Orjeja-Miranda (1970: 282) who give Boulenger's *Catalogue* as source though they say they "have not been able to verify this citation." In any case, everything is buried in synomy and Wied's action was not an early use of the subspecies concept.

[27] The text accompanying plate 24 is lacking in the American Museum copy of the *Abbidungen* but was available (and copied from) the MZUSP copy in São Paulo.

Wied described two specimens in the *Beiträge*, giving measurements of one young one. The subsequent plate in the *Abbildungen* apparently shows the specimen measured in the *Beiträge*; the color pattern indicates that the snake is a young one. The composite plate (pl. 24) shows the whole snake and underside of the head in color, and dorsal and ventral outlines of the head scutellation.

The measured juvenile was "somewhat more" than 367 mm body length, plus 122 mm tail length, with 207 ventrals and 111 subcaudals. AMNH R-3483 (fig. 18A), a male, measures 420 + 140 mm, has 202 ventrals and 113 subcaudals; it corresponds with the plate and probably is the specimen measured and figured; we regard it as the holotype.

A larger syntype, AMNH R-3482, male, 1330 + 420 mm, 208 ventrals, and 104 subcaudals, belongs very probably to the same series, but there is no hard evidence for this assertion.

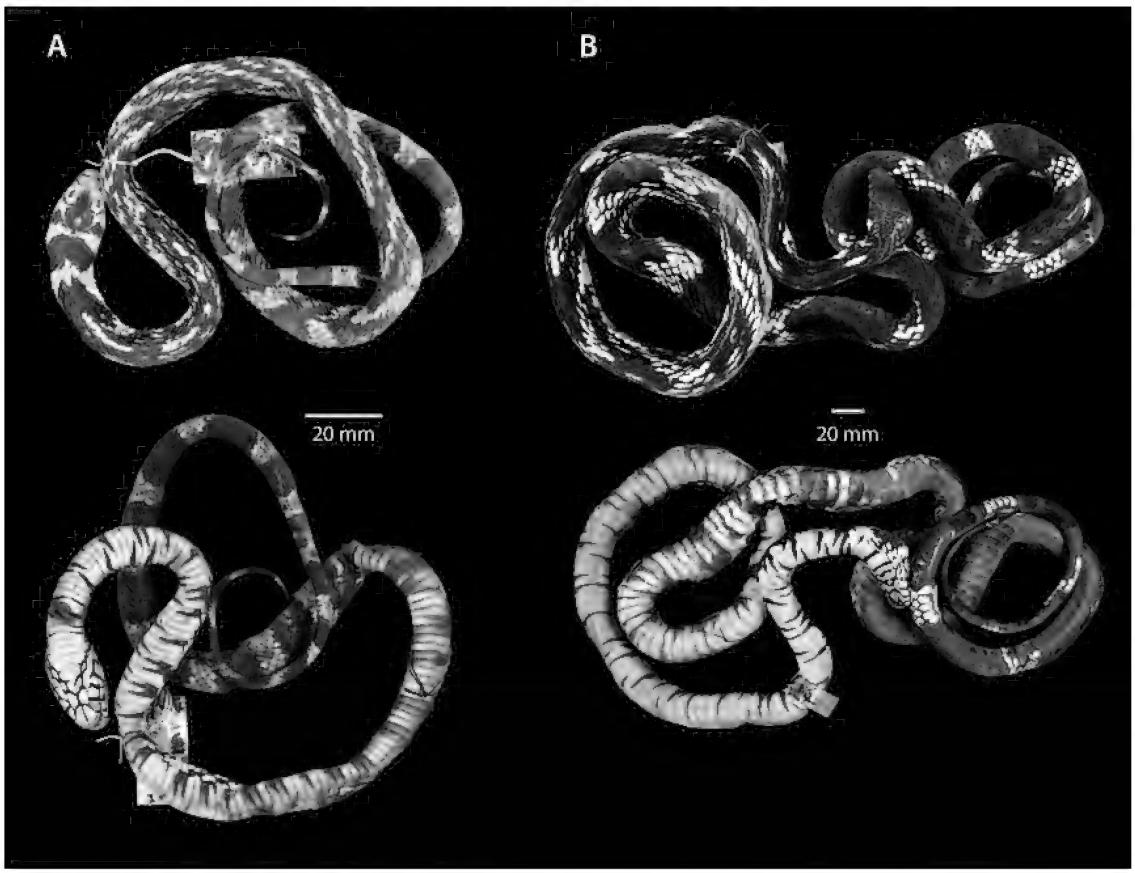


Fig. 12. Synypes of *Coluber variabilis* Wied in dorsal and ventral view (= *Spilotes pullatus* (Linnaeus). **A.** Holotype of *Coluber variabilis* Wied (AMNH R-3483). **B.** Second syntype of *Coluber variabilis* (AMNH R-3482). Both are in the Maximilian collection, but this larger specimen seems not to have been used in the description of *C. variabilis*.

Coluber nattereri Mikan
Plate 25

1824 *Isis*: 665 (listed).
1825 *Beiträge*: 277.
1831 *Abbildungen*: Lief. 14.

PRESENT STATUS: *Thamnodynastes pallidus strigilis* (Mikan, 1820).

REMARKS: Wied described and figured two specimens, both from Espirito Santo, with 158 and 161 ventrals, and 71–72 and 64–65 subcaudals, respectively. Two extant AMNH snakes that have been identified as *natteri* (AMNH R-3399, R-3863) lack specific locality data; they are too badly broken for accurate scale counts but do not seem to correspond to either of the snakes figured by Wied.

The plate shows two intertwined snakes, one light orangish brown with a dark vertebral streak, the other a brown snake with several brown stripes.

Coluber bicarinatus Wied, 1820
Plate 26

1820 *Reise* 1: 181–182.
1824 *Isis*: 666 (diagnosis and reference to *Reise* 1).
1824 *Abbildungen*: Lief. 8.
1825 *Beiträge*: 284, 600, 605.

PRESENT STATUS: *Chironius bicarinatus* (Wied, 1820).

REMARKS: What is generally taken as the original description (e.g., Bailey, 1955; Peters and Orejas-Miranda, 1970) in the *Reise* is so laconic and bare of data that its

validity might be doubted. The name dates from *Reise* 1. The original description consists of a two-line footnote plus elaboration on color and size in the accompanying text. The treatment in the *Beiträge* is very good, as well as the *Abbildungen* plate of a green snake with yellow ventral surfaces and paravertebral keels. Bailey (1955) revalidated the species.

There are no specimens in the collection.

The type locality is a few kilometers south of the lower course of the Rio Jucu in Espirito Santo. Bailey's choice of Barra do Jucu (20°24′S, 40°19′W) is sensible in that one otherwise would have to consider a series of localities cited in the *Beiträge*, from the city of Rio de Janeiro to Vitória.

Coluber pyrrhopogon Wied, 1824
Plate 27

1824 *Isis*: 666 (diagnosis).
1825 *Abbildungen*: Lief. 9.
1825 *Beiträge*: 291.

PRESENT STATUS: *Chironius pyrrhopogon* (Wied, 1824) was relegated to the synonymy of *Chironius exoletus* (Linnaeus, 1758) by Dixon et al. (1993; Wiest, 1978), but we suspect that they have set up an extraordinarily wide-ranging composite species that needs dissecting.

REMARKS: The original description is in the 1824 *Isis*, as usual without indication of locality. In the *Beiträge* there is a full treatment; two specimens were available and of one of them measurements and scale counts are given.

The species was revalidated by Bailey (1955).

There are no specimens in the collection.

The type locality is unequivocally the lower Rio Benevente, at 20°47′S, 40°39′W.

Coluber laevicollis Wied, 1824

1824 *Isis*: 666 (diagnosis).
1825 *Beiträge*: 296, 600.

PRESENT STATUS: *Chironius laevicollis* (Wied, 1824).

REMARKS: This species was originally described in the 1824 *Isis*. In the *Beiträge* one specimen is described, with measurements and scale counts. The species was revalidated by Bailey (1955).

There are no specimens in the collection.

The type locality is an old *fazenda*, Muribeca, on the Rio Itabapoana, in extreme northern Rio de Janeiro (21°15′S, 41°01′W, Vanzolini, 1992: 110).

Coluber carinicaudus Wied, 1824
Plate 28 and figure 13 (holotype)

1824 *Isis*: 666 (diagnosis).
1825 *Beiträge*: 300.
1827 *Abbildungen*: Lief. 11.

PRESENT STATUS: *Helicops carinicaudus* (Wied, 1824).

The name of this species dates from the 1824 *Isis* paper, not the 1825 *Beiträge* as sometimes given. The species appears to be based on a single specimen with 137 ventrals and 50–51 subcaudals; the *Beiträge* gave measurements equivalent to 721 + 155 mm. AMNH R-3365, a female, is a very damaged specimen, whose ventrals cannot be counted. But it measures 717 + 155 mm and has 50 subcaudals—essentially a perfect match. Agreement with the plate is also very good.

AMNH R-3365 is the holotype. The type locality is the lower course of the Rio Itapemirim, at 21°00′S, 40°49′W.

Coluber lichtensteinii Wied, 1824
Plate 29 and figure 14 (lectotype)

1824 *Isis*: 666 (diagnosis).
1825 *Nova Acta*: 496–502 + color pl. 46.
1825 *Beiträge*: 305, 600.
1831 *Abbildungen*: Lief. 15.

PRESENT STATUS: *Mastigodryas bifossatus* (Raddi, 1820).

REMARKS: *Coluber lichtensteinii* dates from the 1824 *Isis*, not from the 1825 *Nova Acta* as given by most authorities (e.g., Stuart, 1941: 39; Peters and Orejas-Miranda, 1970: 192). A formal description with a color plate appeared in *Nova Acta*, and virtually the same description was published in the same year (Wied, 1825b) in the *Beiträge*. For the 1831 fascicle of *Abbildungen*, the original color plate from *Nova Acta* was evidently recopied (perhaps with specimen in hand, as there is a slight shift in positioning) by the artist Hermann Beckers in the same style, with the outline drawings of the head being reduced and repositioned.

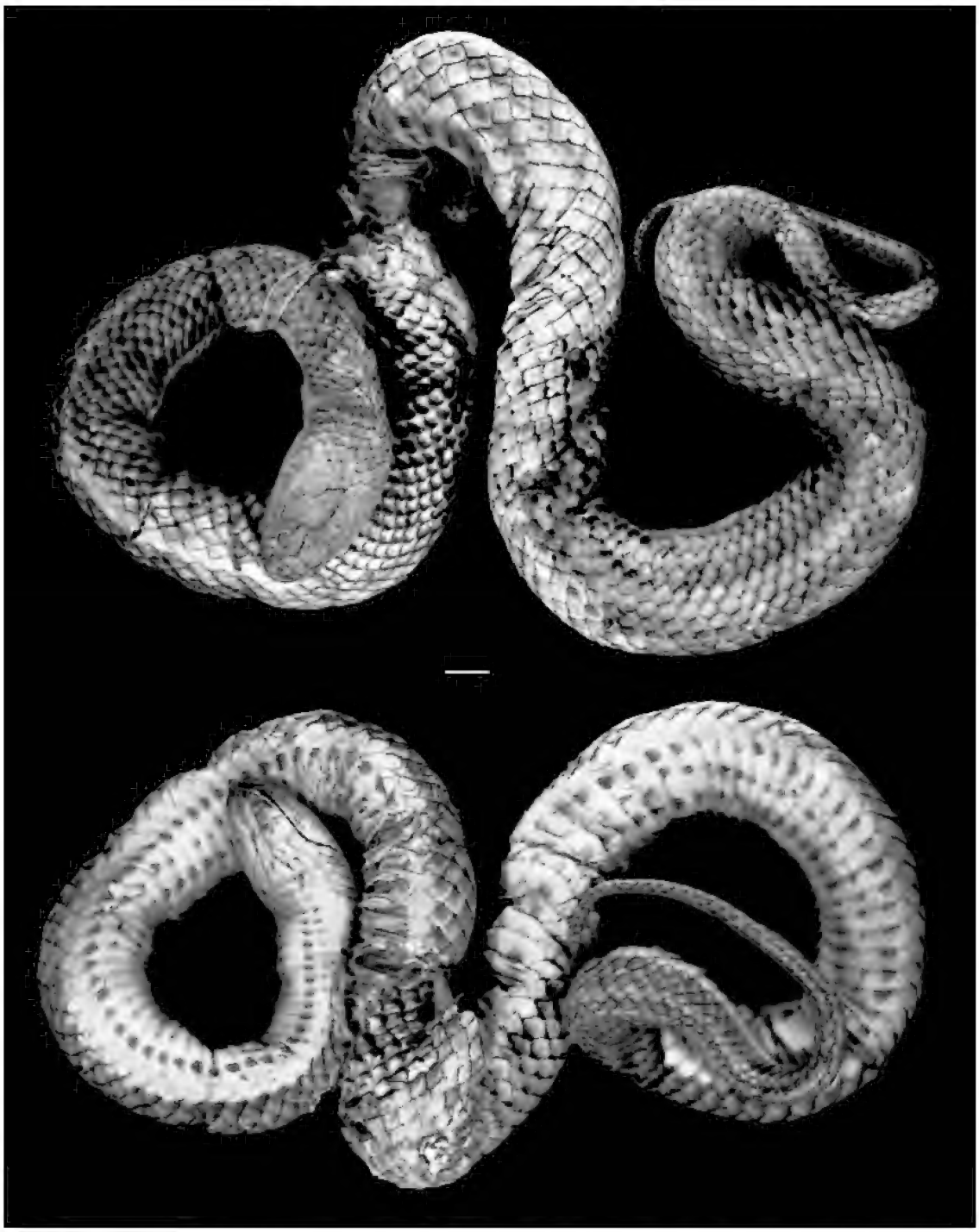


Fig. 13. Holotype of *Coluber carinicaudus* Wied, in dorsal and ventral view (AMNH R-3365). Scale line = 10 mm.

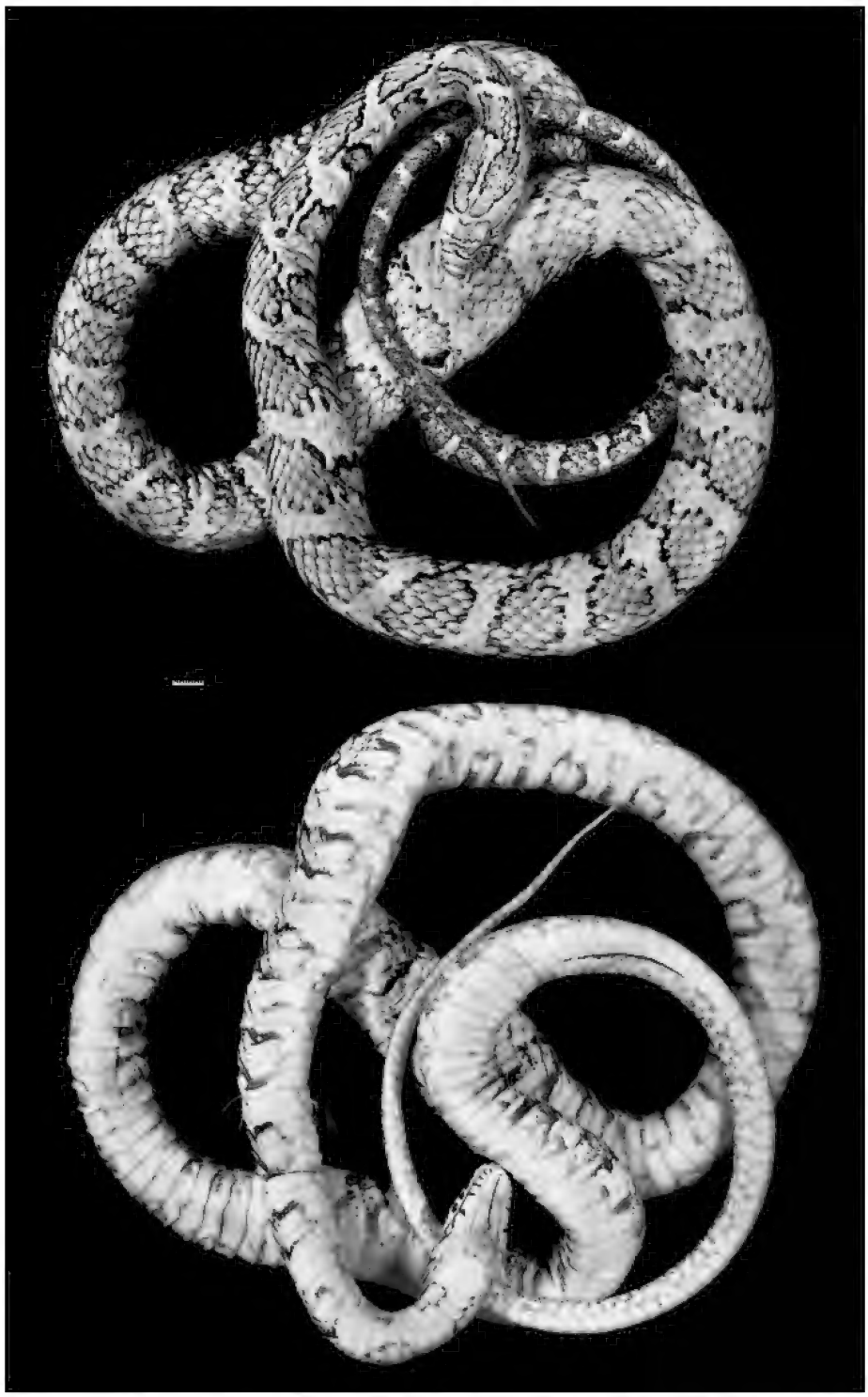


Fig. 14. Lectotype of *Coluber lichtensteinii* Wied, in dorsal and ventral view (AMNH R-3514♀). Scale line = 10 mm.

This second painting, shown in Bosch (1986–1991: 256), was transferred to copperplate in mirror image for the *Abbildungen* (see pl. 29).

Wied proposed *lichtensteinii* essentially as a nomen novum for *Coluber capistratus* Lichtenstein (1823: 104), which was based on a five-line Latin description in a sales list of duplicate specimens in the Berlin Museum. Wied's description was, of course, much more complete and accompanied by a color plate, but that was before priority of publication became virtually paramount in nomenclatural matters.[28] Both these names have been buried in the synonymy of the species-group name *bifossatus* at least since Boulenger (1894: 10).

Wied (*Beiträge*: 314) mentioned "*Daudin's Coluber pantherinus*" as resembling *lichtensteinii*, but he subsequently (and understandably; see next footnote) seems to have gotten confused over the context of the name *pantherinus*. His 1860 manuscript catalog entry for *lichtensteinii* (species no. 96) shows it as "*Coluber* Linn. *pantherinus* [blank space] (*Col. Lichtensteinii* Wied)." The space after the name *pantherinus* appears to have been left for an authority (which is usually given in the manuscript catalog).[29] There is one extant specimen—AMNH R-3514♀, to which had been added at one time an AMNH mammal or bird paper field tag bearing an old card catalog number (588) and the name *Coluber pantherinus*, obviously taken from Maximilian's manuscript catalog.

Wied gave measurements and scale counts of six specimens, of which one was in Berlin (Lichtenstein's holotype) and one in Leiden. The relevant *Nova Acta* and *Beiträge* data for Wied's specimens (excluding the two in Leiden and Berlin) and the extant AMNH specimen are:

	Beiträge				AMNH
	(1)	(2)	(3)	(4)	3514
Body length	1032	–	824	1053	1182
Tail length	142	–	278	401	440
Ventrals	178	181	181	179	178
Subcaudals	85–86	92	85	97	95

From these comparisons alone, it would seem probable that AMNH R-3514 is Wied's specimen number 4 above (this is the sixth specimen in *Nova Acta* and the *Beiträge*). In corroboration, AMNH R-3514 is clearly the specimen illustrated in color in the *Nova Acta* plate and again in the *Abbildungen* (see pl. 29). The dorsal blotch pattern is a good match: The specimen has 44 body blotches + 25 distinct tail blotches = 69, about the same total in the plates, with the first blotch being confluent with parallel cephalic blotches and with the first five dorsal blotches being detached from the lateral markings. The details of head scutellation are especially convincing. The inherently variable gular scales are a virtually perfect match between specimen and plates; other details include the point contact of each fifth infralabial with a posterior genial.

Therefore, the only specimen of this species remaining in the Maximilian collection is clearly a syntype, and the most important one at that. We consequently designate it (AMNH R-3514) as lectotype of *Coluber lichtensteinii* Wied, 1824. Several localities are mentioned in the *Beiträge*, but

[28] Usage, however, sometimes trumps priority, as in the case of another of Prince Max's names: *Coluber poecilogyrus* (now in *Liophis*) came to prevail by fiat (in 1996) over older names, including Lichtenstein's *C. alternans*, which was published on the same page as *Coluber capistratus* above.

[29] Wied's *Beiträge* reference was to *Coluber pantherinus* Daudin (1803, vol. 6: 318–321, pl. 77, no. 2 [showing several black-edged reddish dorsal blotches]). Daudin referred to Merrem's figure of the "Zusammengedrückte Natter. Bl[asius]. Merrem, Beytr. naturg. amphib. fasc. 2, p. 49, pl. xi" [= Merrem, 1790 (1790–1821)]. Subsequently, Merrem (1820: 102), in a work well known to Prince Max, used *pantherinus* for his "Zusammengedrückte Natter," with references to Daudin (loc. cit.) and to Hermann (1804: 285), who posthumously also had named *pantherinus* as new. Country of origin was unknown.

Some years later, Schlegel (1837, vol. 2: 143, pl. 5) misapplied Daudin's name *C. pantherinus* to a Brazilian specimen ("St. Paul" = São Paulo) of the same species as Wied's *C. lichtensteinii*! Remembering that "authorities" in Maximilian's 1860 catalog were not necessarily original authors, the blank space evidently reflects his uncertainty about the attribution of the name *pantherinus*.

Along with Wied's *C. lichtensteinii*, *Coluber pantherinus* sensu Schlegel (1837, *non* Daudin) is considered a synonym of *Mastigodryas bifossatus* (Boulenger, 1896: 10). *Coluber pantherinus* Daudin is in the synonymy of the North American *Elaphe guttata* (Boulenger, 1896: 197), although Schmidt (1953: 196) wrongly attributed Daudin's *pantherinus* to Merrem (1820).

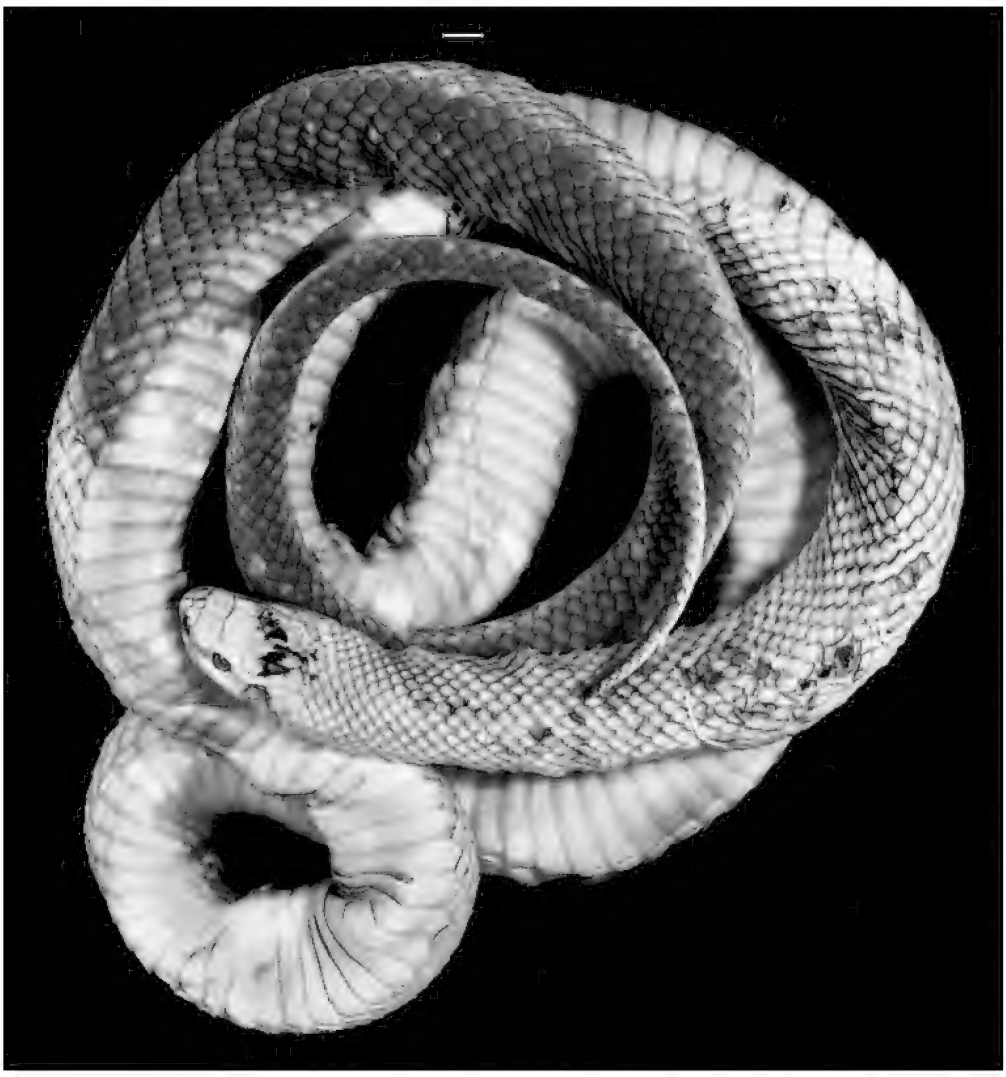


Fig. 15. Holotype of *Coluber plumbeus* Wied (AMNH R-33365♂). Scale line = 10 mm.

they cannot be matched to specimens. The type locality is the east coast of Brazil.

Coluber plumbeus Wied, 1820
Plate 30 and figure 15 (holotype)

1820 *Reise* 1: 95 (diagnosis).
1824 *Isis*: 667.
1825 *Beiträge*: 314.
1829 *Abbildungen*: Lief. 13.

PRESENT STATUS: *Clelia clelia plumbea* (Wied, 1820).

REMARKS: The brief diagnosis in the *Reise*, repeated (paraphrased) in the *Isis*, is complemented by a good description in the *Beiträge*, with measurements and scale counts, and by an excellent plate in the *Abbildungen* (see pl. 30).

Wied's only specimen measured 1433 + 354 mm, and had 224 ventrals and 79 subcaudals. AMNH R-3481, a male, measures 1455 + 373 mm, and has 222 ventrals and 79 subcaudals. Compared with plate 30, the specimen matches the outline drawings of scutellation on the dorsal and ventral sides of the head; the side of the snout of the whole snake is accurate, although the two postoculars are much too long (being better represented in

Fig. 16. Holotype of *Coluber acuminatus* Wied (AMNH R-3856).

the dorsal outline drawing). The specimen is differentially faded—yellowish over much of the dorsum but brown on parts that presumably were less exposed to light.

Inasmuch as Wied stated in the *Beiträge* that he had taken only a single specimen and that the present one agrees closely with the description and plate, AMNH R-3481 is the holotype beyond doubt. It is shown in his 1860 manuscript catalog as "*Brachyrrhyton* D.B. *plumbeum* Wied. D.B." (species no. 156).

The type locality (*Reise* 1: 89f.) is approximately midway between the Fazenda Campos Novos (the present Tamoios [Bokermann, 1957] at 22°42′S, 42°02′W), and the Rio São João, which enters the sea at 22°39′S, 42°01′W.

Coluber chrysogaster Wied, 1824

1824 *Isis*: 667 (2-line diagnosis).
1825 *Beiträge*: 318.

PRESENT STATUS: Uncertain, a nomen dubium.

REMARKS: Wied gave a fairly good description in the *Beiträge* but was unable to preserve his single specimen, so there never has been a preserved holotype. The type locality is Barra de Jucu. This snake was not indexed by Boulenger (1896) or by Peters and Orejas-Miranda (1970) and has not been identified in the literature.

Coluber testaceus Wied, 1824

1824 *Isis*: 667 (diagnosis).
1825 *Beiträge*: 320.

PRESENT STATUS: Uncertain, a nomen dubium.

REMARKS: This species was diagnosed in the *Isis* and described in the *Beiträge*, evidently from one specimen, but not figured. It was not indexed by Boulenger (1896) or by Peters and Orejas-Miranda (1970) and has not been identified in the literature. There are no specimens in the collection.

Coluber testaceus Wied, 1824, is a junior homonym of *Coluber testaceus* Say, 1823.

Coluber acuminatus Wied, 1824
Plate 31 and figure 16 (holotype)

1824 *Isis*: 667 (diagnosis).
1825 *Beiträge*: 322.
1831 *Abbildungen*: Lief. 14.

PRESENT STATUS: *Oxybelis aeneus* (Wagler, 1824).

REMARKS: Wied said in the *Beiträge* account that despite a few differences this snake seemed identical with *Dryinus aeneus*. Wied's 1860 manuscript catalog acknowledges Duméril and Bibron's placement of his snake as a synonym of *aeneus*: "*Oxybelis aeneus* D.B. (*Col. acuminatus* W.)"; it is species no. 160 in the catalog.

The only specimen in the collection, AMNH R-3886, is the holotype of Wied's *acuminatus*, as discussed by Bogert and Oliver (1945: 389–390), who compared the specimen in detail with the 1825 description.

Coluber modestus Wied, 1824

1824 *Isis*: 667 (diagnosis).
1825 *Beiträge*: 326.

PRESENT STATUS: Uncertain, a nomen dubium.

REMARKS: This species was diagnosed in the *Isis* and subsequently described in the *Beiträge*, but not figured. It was not indexed by Boulenger (1896) or by Peters and Orejas-Miranda (1970) and has not been identified in the literature. Wied's one specimen came from Jucu ("Flüsschen *Jucú*, unweit des *Espirito Santo*").

Wied stated in the *Beiträge* that the specimen was received in not quite fresh condition and that he did not know whether it could be preserved, although he thought that the color probably would not change much in spirits. *Ihre Farbe ist sehr einfach, allein die Schuppen haben einen besonders schönen Glanz* ("Their color is very simple, but the scales have a particularly beautiful shine"). Since it was not preserved, there is no specimen in the collection.

Coluber undulatus Wied, 1824
Plate 24

1824 *Isis*: 667 (diagnosis).
1825 *Beiträge*: 329.
1831 *Abbildungen*: Lief. 14 (figs. 1–2 of composite pl.).

PRESENT STATUS: *Echinanthera undulata* (Wied, 1824).

REMARKS: This species was diagnosed in the *Isis* and described in the *Beiträge* from one specimen. A composite plate (including *Coluber variabilis*) in the *Abbildungen* shows the head and anterior body in dorsolateral view and the head and nape in dosal view (see pl. 24).

The type locality is "Parahyba," which means the vicinity of the Rio Paraiba, where it is crossed by the road, i.e., near Campos (21°45′S, 41°03′W). There are no specimens in the collection.

Coluber merremii Wied, 1821
Plate 32

1821 *Reise* 2: 121.
1824 *Isis*: 667 (diagnosis).
1824 *Abbildungen*: Lief. 8 (fig. 1 of composite pl.).
1825 *Beiträge*: 332.

PRESENT STATUS: *Liophis miliaris merremii* (Wied, 1821).

REMARKS: This snake was first named and described in a footnote to the *Reise* (the type locality is São Pedro d'Alcâtara = Itabuna). In the *Beiträge* there is a description, with measurements and scale counts of five Maximilian specimens, plus *Ein sechstes Exemplar, jetzt in der Sammlung des Herrn Hofrath Merrem* ("a sixth specimen now in Merrem's collection"). The plate (pl. 32) is excellent and there has never been any doubt about the identification. Gans (1964: 35–39) and Dixon (1983) discussed attributions of names in the synonymy of *Liophis miliaris* Linnaeus, and the latter outlined an arrangement of subspecies.

There is in Maximilian's manuscript catalog the entry no. 143, "*Liophis merremii*," but no specimens are known to be extant.

Coluber collaris Wied, 1824

1824 *Isis*: 667 (diagnosis).
1825 *Beiträge*: 338.

PRESENT STATUS: *Liophis miliaris merremii* Wied?.

REMARKS: This species was diagnosed in the *Isis*. It was included in the *Beiträge* with a question mark, due to Wied's uncertainty as to whether an adult of a new species or the young of *Coluber merremii* [*Liophis miliaris merremii*]. It was not indexed by Boulenger (1896) or by Peters and Orejas-Miranda (1970) and has not been allocated in the literature.

The type locality is Jucu ("*Barra de Jucú* unweit des *Espirito Santo*"). There is no mention in the collection list and no specimen in the collection.

Coluber marginatus Wied, 1824

1824 *Isis*: 668 (diagnosis).
1825 *Beiträge*: 341, pl. 2 (fig. 5).

PRESENT STATUS: Uncertain, nomen dubium.

REMARKS: This species was first diagnosed in the *Isis*. In the *Beiträge* there is the description of one specimen, with measurements and scale counts. The name was not indexed by Boulenger (1896) or by Peters and Orejas-Miranda (1970) and has not been identified in the literature. It is not on the collection list, and there are no specimens in the collection.

Coluber dictyodes Wied, 1824

1824 *Isis*: 668 (diagnosis).
1825 *Beiträge*: 343.

PRESENT STATUS: *Liophis miliaris merremii* (Wied, 1824). See *Coluber merremii* Wied above.

REMARKS: This species was named and diagnosed in the *Isis* and subsequently discussed in some detail in the *Beiträge*, based on one fresh specimen that was described in the field but which could not be preserved. Hence, there has never been a preserved holotype, and no indication that any other specimens were captured and preserved. Wied stated that the teeth were moderately large (*Zähne mittelmäßig groß*), a subjective assertion said by Gans (1964: 36–37) to be a misstatement and probably "an error in field examination." Gans wrote that the length given by Wied was 617 + 131 mm, apparently equating Wied's measurements with the modern English foot (in which case Gans converted the tail length correctly but not the body length, which should have been 749 mm). Our conversion = 721 + 126 mm.

Wied did not explicitly say where the described specimen came from, only that the species lived in the region of Cabo Frio, Marica, and Sagoarema [Saquarema], and probably also Rio de Janeiro and the river Parahyba. Cabo Rio, the first locality, is usually given as "type locality."

The name *Coluber dictyodes* does not appear in Wied's 1860 manuscript classification/catalog, but included among seven names under "genus 147. *Liophis* Wagl." are:

3. *Merremii* Wied. Brasilien; and
4. *reticulata* Wied (?*L. Merremii* var.) Brasilien.

We cannot associate the name *reticulata* with anything described by Wied, and wonder if it might have been a manuscript name that never saw print, or possibly a lapsus for the present name *dictyodes*.

Coluber pileatus Wied, 1824
Plate 34, figure 17 (not a type)

1824 *Isis*: 668 (diagnosis).
1824 *Abbildungen*: Lief. 8.
1825 *Beiträge*: 344, 600.

PRESENT STATUS: *Philodryas olfersii olfersii* (Lichtenstein, 1823).

REMARKS: This species was diagnosed in the *Isis* and well depicted in the *Abbildungen* in 1824, and later well described in the *Beiträge*, including measurements and scale counts for three specimens (one of Wied's and two in Leiden). There is no doubt as to the specific assignment, and Wied himself noted in the *Beiträge* appendix (p. 600) that his *pileatus* "scheint identisch mit *Coluber Olfersii* Hempr. oder *Col. olivaceus* Olf. zu seyn." And his 1860 manuscript catalog shows it as "*Dryophis* Wagl. *olfersii* Licht. (*Colub. pileatus* Wied)," species no. 158.

There is only one specimen in the collection, AMNH R-2801♀, to be compared with Wied's specimen (no. 1 below) and the two specimens from Leiden (2–3). The relevant data are:

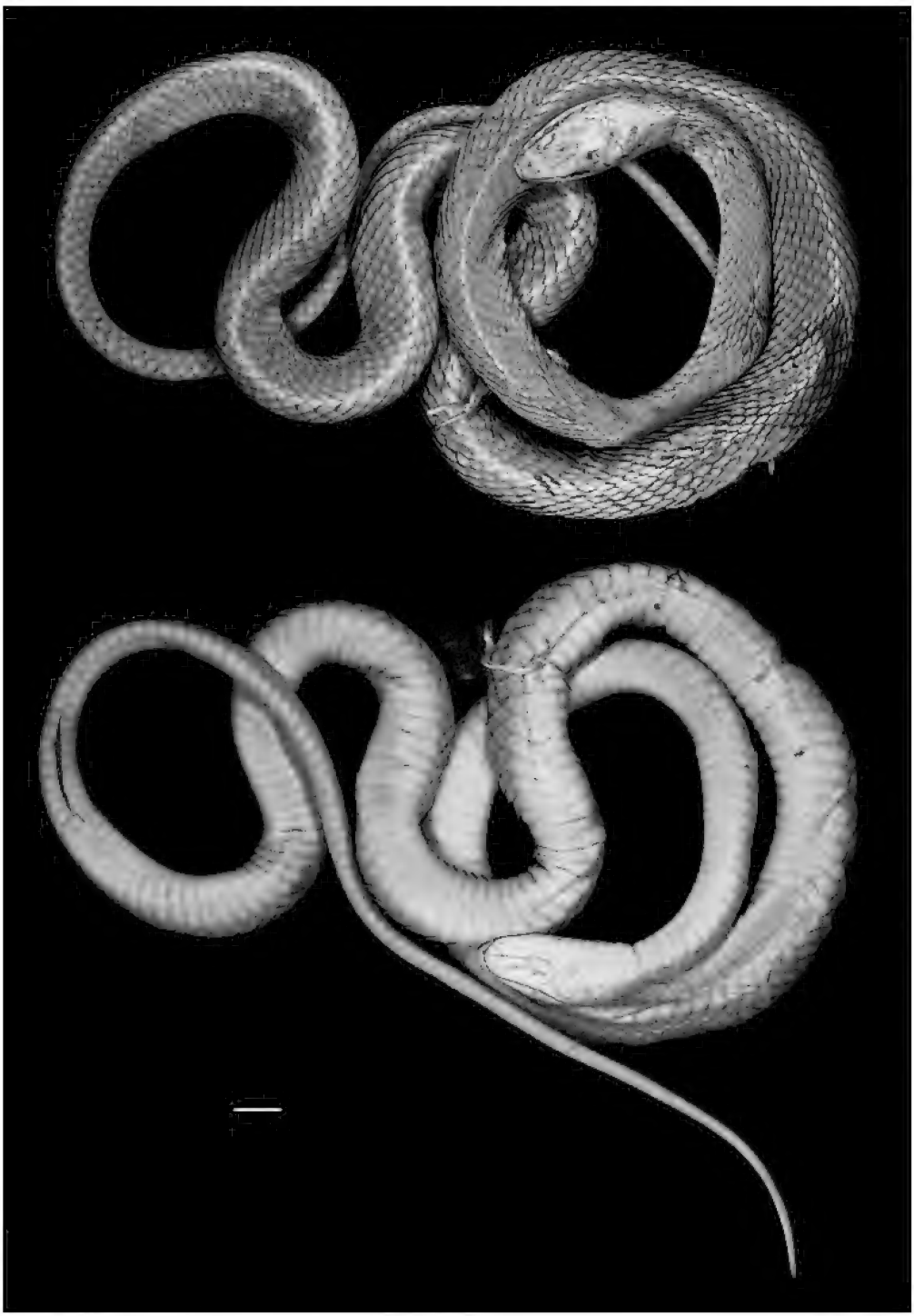


Fig. 17. *Coluber pileatus* Wied. This is the only surviving specimen of the species in the Maximilian collection, but it is not a type (AMNH R-2801♀). Scale line = 10 mm.

	Beiträge	Leiden specimens		AMNH
	(1)	(2)	(3)	2801
Body length	572	586	892	735
Tail length	216	251	245	275
Ventrals	189	192	192	197
Subcaudals	99–100	114	114	101

Although AMNH R-2801 (fig. 17) is superficially similar to Wied's illustration (pl. 34), the disagreement in measurements is forbidding. Furthermore, there are substantial differences between the specimen and the ventral outline of the head shown in plate 34: the plate shows on both left and right sides infralabials 1–5 in contact with the anterior genials and labials 5–6 in contact with the posterior genials (1–4 and 4–5, respectively, in AMNH R-2801), nor is there any correspondence in the arrangement of the variously sized gular scales lying between the posterior genials and the anterior ventral plate.

AMNH R-2801 cannot be matched with Wied's publications and we do not regard it as a type specimen. Whether it was collected by Wied or acquired by him later is not known.

The type locality is the "Rio Itabapuana" as given in the *Beiträge* (p. 348) and in Peters and Orjejas-Miranda (1970: 244).

Coluber herbeus Wied, 1824

1821 *Reise* 2: 208.
1824 *Isis*: 668 (diagnosis).
1825 *Beiträge*: 349.

PRESENT STATUS: *Philodryas olfersii herbeus* (Wied, 1824), following Thomas (MS.: 161).

REMARKS: This species was referred to in the *Reise* as "Cobra verde," without a Latin name or a diagnostic footnote. The name therefore dates from the 1824 *Isis*.

In the *Beiträge* it is stated that the specimen was not preserved, so there is no point in looking for a holotype.

The type locality is loosely designated in the *Beiträge* as "Sertong[30] der *Capitania da Bahia*" [an administrative district] —the bush country of the Captaincy of Bahia; in the *Reise*, however, there is an exact statement, "Os Porcos" (Porcos, 15°04′S, 41°00′W).

Coluber rabdocephalus Wied, 1824
Plates 35–36 and figure 18 (lectotype)

1824 *Isis*: 668 (diagnosis).
1825 *Beiträge*: 351.
1827 *Abbildungen*: Lief. 10 (2 pls.).

PRESENT STATUS: *Xenodon rabdocephalus* (Wied, 1824).

REMARKS: This species was diagnosed in the *Isis* for 1824, carefully described in the *Beiträge,* and figured with two plates in the *Abbildungen*.

Myers (in Myers and McDowell, 2014: 83–89) analyzed the confused cataloging history of specimens assigned to *Coluber* or *Xenodon* "*rhabdocephalus*" (an old emendation) in the American Museum and designated the only surviving syntype (AMNH R-3609) as lectotype. Although the old AMNH catalog locality for this specimen was "Surinam," it clearly is an illustrated Wied specimen from Brazil. A copy of the *Abbildungen* painting (without color) and the preserved specimen are compared side by side in figure 18; as earlier noted by Myers (in Myers and McDowell, 2014: 89),

> allowing for minor copying errors, the match is excellent. The body is too soft to obtain accurate scale counts without further damage to the specimen, but it has an undivided anal plate (with a short tear that should not be mistaken for a division) and 47 pairs of subcaudals; it is in two parts, measuring about 290 mm + 295 mm = approximately 585 mm total length, of which about 86 mm (14.7%) is tail length.

Coluber saurocephalus Wied, 1824

1821 *Reise* 2: 124.
1824 *Isis*: 668 (diagnosis).
1825 *Beiträge*: 359, pl. 2 (fig. 6, head).

PRESENT STATUS: *Xenodon severus* (Linnaeus, 1758).

[30] "Sertong" was a German phonetic rendering of *Sertão* ("bush country" or "wild backcountry"). In Wied's case, the phrase quoted means Bahia west of the Atlantic forest.

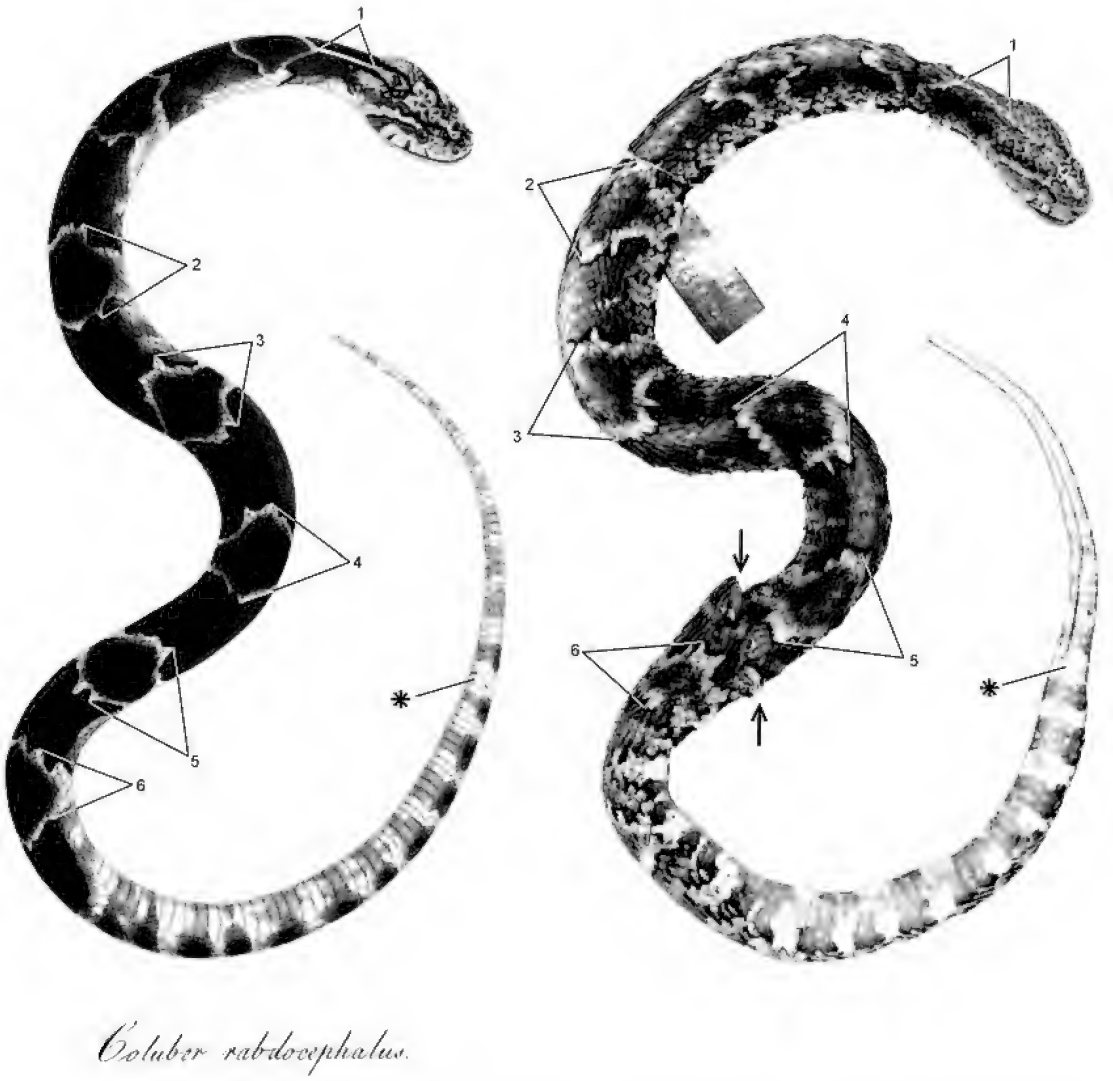


Fig. 18. Lectotype of *Xenodon rabdocephalus* (Wied, 1824). One of two unnumbered folio plates (*left*) showing "*Coluber rabdocephalus*" in the *Abbildungen zur Naturgeschichte* (Wied, 1827 [1822–1831] = plate 35 herein. Same specimen (*right*), now AMNH R-3609. This specimen suffered some decomposition in the past, with the body becoming very soft and breaking completely in two parts (arrows show place of break). Telling points of resemblance between painting and specimen are numbered: **1.** Longitudinal white line on neck, terminating Y-shaped at first dorsal blotch; **2–6.** Anterior and posterior pale edges of dorsal blotches, showing both resemblances and minor copying errors; asterisk (*) denotes the undivided anal plate. The resemblance between the painting and specimen is very close, allowing for the inevitable accumulated copying errors (i.e., Wied's original pen-and-ink watercolor was copied from life and it in turn was copied by an artist for the published plate).

REMARKS: In the *Reise* Wied refers to a species "with the highest probability" equal to *Coluber versicolor* Merrem. In both the *Isis* and *Beiträge*, he suspects his species of being a synonym of *Coluber severus*. He was right on both counts, since *C. versicolor* is also a synonym of *Xenodon severus*.

The type locality, as stated in the *Reise*, is the creek Estreito D'agua, at 14°55′S, 39°23′W (Vanzolini, 1992: 70). There are no specimens in the collection.

Coluber doliatus, Merrem
Plate 32

1824 *Isis*: 668 (diagnosis as *C. doliatus*).
1824 *Abbildungen*: Lief. 8 (fig. 3 of composite pl.).
1825 *Beiträge*: 368.

PRESENT STATUS: *Liophis poecilogyrus* (Wied, 1824).

REMARKS: This species was diagnosed in the *Isis* for 1824, figured in the same year in the *Abbildungen,* and subsequently described in the *Beiträge*. It has long been known that it is the young of *Liophis 2*. In fact, Wied himself so comments in the *Beiträge* (p. 376); he decided for the individuality of the species based on body proportions, which, however, are well known to vary ontogenetically.

Wied gave measurements and scale counts of a single specimen from Barra do Jucu (20°24′S, 40°19′W), and a colored plate with outlines of the head in dorsal and ventral view. No specimen in the collection matches them. AMNH R-3594 is beyond doubt the subadult depicted in the same plate as *Coluber doliatus*; especially telling are peculiarities in the arrangement of the rings and in the throat scutellation.

Coluber doliatus Linnaeus is itself a suppressed name (ICZN, 1967).

Coluber poecilogyrus Wied, 1824
Plates 32–33 and figure 19 (syntypes)

1824 *Isis*: 669 (diagnosis).
1824 *Abbildungen*: Lief. 8 (2 pls.).
1825 *Beiträge*: 371, 600.

PRESENT STATUS: Liophis poecilogyrus poecilogyrus (Wied, 1824).

REMARKS: The original description of this species usually has been assigned an 1825 date (e.g., Boulenger, 1894: 131; Peters and Orejas-Miranda, 1970: 145; Dixon and Markezich, 1992). It is, however, among the species diagnosed in the 1824 *Isis* and illustrated in the same year in the *Abbildungen*. Smith et al. (1994) assigned it to "Heft"[31] 8 of the *Abbildungen*, but unfortunately used an arbitrary plate number ("[44]") without awareness that the plates were not originally numbered and that there are *two* plates of the species in Lieferung 8. Consequently, the "original reference" in opinion 1832 of the International Commision on Zoological Nomenclature (ICZN, 1994: 73) is shown as:

> *poecilogyrus, Coluber,* Wied-Neuwied, [Wied, 1822–1831, Lief. 8], *Abbildungen zur Naturgeschichte Brasiliens,* Heft 8, pl. 44, fig. 2

The reference to figure 2 identifies plate "44" as the one that is arbitrarily numbered plate 32 in the present work.

There are in the *Beiträge* data on five specimens, to be compared with two in the collection:

	Beiträge					AMNH	
	(1)	(2)	(3)	(4)	(5)	3593	3594
Body length	358	454	–	–	–	410	306
Tail length	68	126	–	–	–	107	72
Ventrals	165	165	154	159	163	62	161
Subcaudals	60	63	54–55	60	61–61	61	59

The two extant specimens are AMNH R-3593–3594 (fig. 19), which have retained their color patterns while becoming soft and damaged in preservative; short pieces are missing from the broken tails; the larger specimen is ventrally torn, so that ventrals cannot be accurately counted. Consequently, the measurements and scale counts given above are from an unpublished thesis by A.L. Markezich (1976: 25–26), who examined the specimens in the 1970s (before further deterioration from handling and shipping).

A firm decision cannot be reached based on the above table.[32] One must turn to the plates. There

[31] *Heft* (usually the part or issue number of a periodical) often has been used informally or unconsciously, even by librarians, for the *Lieferungen* delivered over time to subscribers of Maximilian's *Abbildungen*.

[32] Wied seemingly erred in measuring his largest specimen. A calculated tail/total length ratio of 0.277 is much higher than known for the species. Dixon and Markezich (1992: 134) gave a range of 0.129–0.224 for some 700 specimens throughout the geographic range.

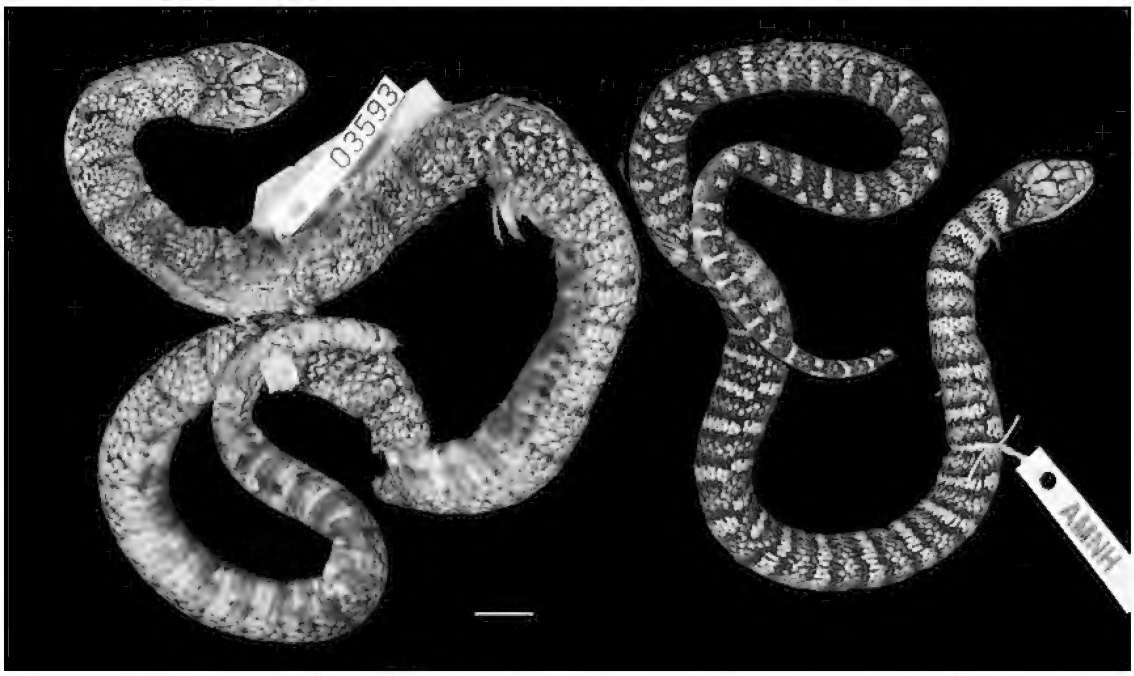


Fig. 19. Syntypes of *Coluber poecilogyrus* Wied, AMNH R-3593 on left, AMNH R-3594 on right. These are the only known surviving syntypes; nothing would seem to be gained by designating either as lectotype. Scale line = 10 mm.

are in the *Abbildungen* two plates containing *Coluber poecilogyrus*. One (pl. 33) contains a single adult, with a colored view of the whole snake, and dorsal and ventral outlines of the head. The other plate is a composite that contains a subadult *Coluber poecilogyrus* in color (fig. 2 in pl. 32), with out-lines of the head (this plate also shows the types of *Coluber merremii* and *Coluber doliatus)*.

AMNH R-3593 agrees very well with the adult *poecilogyrus* in plate 33. The dorsal pattern and the head scalation agree closely (e.g., both the specimen and the drawing have 4 infralabials in contact with the anterior genials on the right, 5 on the left); the ventral pattern seems slightly darker in the specimen than in the figure.

AMNH R-3594 appears to be the subadult depicted in plate 32, even though the outline drawing of the head in ventral view (particularly in the infrabials) does not match well. That it is the same specimen is indicated by certain peculiarities in the arrangement of the dark rings and the fact that the body is predisposed to bend easily to the shape shown in the plate.

Overall, the discrepancies seem minor, and we believe that AMNH R-3593 and 3594 are the specimens of *Coluber poecilogyrus* portrayed in the *Abbildungen*; these two syntypes seem of equal value and nothing is gained by designating one as lectotype. The type locality is Barra do Jucu (20°24′S, 40°19′W).

Dixon (1989: 19–20), Dixon and Markezich (1992: 132), and Smith et al. (1994) have elaborated on the extensive synonymy of *Liophis poecilogyrus* (Wied), and the specific name subsequently was conserved by the International Commission on Zoological Nomenclature (1996).

Coluber erythrogaster Wied, 1824

1824 *Isis*: 669 (diagnosis).
1825 *Beiträge*: 378.

PRESENT STATUS: Uncertain, a nomen dubium.

REMARKS: This name was not indexed by Boulenger (1896) or by Peters and Orejas-Miranda (1970). It seems not to have been identified in the literature, although careful

attention to the *Beiträge* description will likely place it as a coral snake mimic like *Coluber formosus* (*Oxyrhopus formosus* [Wied, 1820]) and *Coluber venustissimus* (*Erythrolamprus aesculapii venustissimus* [Wied, 1820]), which are treated in the *Beiträge* on pages 381–395 following the description of *Coluber erythrogaster* (pp. 378–381). Those two mimics were also treated in Wied's *Nova Acta* coral snake paper describing *Elaps corallinus*.

There are no specimens in the collection. The type locality is the Rio Barganza on the Campos dos Goitacazes near the Rio Peruipe.

Coluber formosus Wied, 1820
Plate 37

1820 *Reise* 1: 257 (description).
1821? *Nova Acta*: 109–110 (second description).
1821 *Reise* 2: 75.
1822 *Abbildungen*: Lief. 1.
1824 *Isis*: 669 (diagnosis).
1825 *Beiträge*: 381, pl. 2 (figs. 13–14).

PRESENT STATUS: *Oxyrhopus formosus* (Wied, 1820).

REMARKS: This species is usually attributed to Wied's *Nova Acta* coral snake paper (e.g., Peters and Orejas-Miranda, 1970: 232), but the description therein (p. 109) contains a reference to Wied's footnote description on page 257 of *Reise* 1 (1820), which we take as the original description.

There are no specimens in the collection.

Coluber venustissimus Wied, 1820
Plates 38, 39

1821? *Nova Acta*: 110 (first description).
1821 *Reise* 2: 75 (second description).
1822 *Abbildungen*: Lief. 1.
1824 *Abbildungen*: Lief. 7.
1824 *Isis*: 669 (listed with reference to the *Abbildungen*).
1825 *Beiträge*: 386, pl. 2 (figs. 7–8).

PRESENT STATUS: *Erythrolamprus aesculapii venustissimus* (Wied, 1820).

REMARKS: This name is usually dated from page 75 in *Reise* 2, 1821 (Peters and Orejas-Miranda, 1970: 112), but on that same page Wied made reference to the *Nova Acta* coral snake paper (see discussion under Prince Maximilian's Herpetological Publications).

Wied's two color plates in the 1822 and 1824 *Abbildungen* show snakes of very different appearance. The 1822 one (pl. 38) is of a red snake with blackish scale tips and widely spaced pairs of black bands that are narrowly separated from one another and from adjacent red areas by narrow rings of pale yellow. This snake somewhat resembles a "group II" *Erythrolamprus aesculapii* shown as figure 1b of Marques and Puorto's (1991) paper. Wied found his specimen in the vicinity of "Villa Viçoza, am Flusse Peruïpe."

Wied's 1824 plate (pl. 39), labeled "*Coluber venustissimus* Varietas," shows a red snake with blackish scale tips and widely separated black rings, which are bordered by narrow, pale grayish rings. This snake is similar to the "group II" snake shown as figure 1d in Marques and Puorto (1991). No locality was given. Wied remarked on the similarity between this snake and his *Elaps [Micrurus] corallinus*.

There are no specimens in the collection.

Dipsas cenchoa (Linnaeus)

1824 *Isis*: 669 (listed).
1825 *Beiträge*: 396.

PRESENT STATUS: *Imantodes cenchoa* (Linnaeus, 1758).

REMARKS: There are no specimens in the collection.

Elaps corallinus Wied, 1820
Plate 40 and figures 20–21 (lectotype and paralectotype)

1820 *Reise* 1: 72, 258 (Cobra coral oder Coraës).
1821? *Nova Acta*: 108–109 + color pl. 4 (description).
1821 *Reise* 2: 75 (reference to preceding description and to Merrem), 336, 339.
1824 *Isis*: 669 (diagnosis).
1824 *Abbildungen*: Lief. 6.
1825 *Beiträge*: 405, pl. 2 (figs. 11–12).

PRESENT STATUS: *Micrurus corallinus* (Merrem, 1820).

REMARKS: This name dates from the *Nova Acta* coral snake paper (usually dated 1820, but see discussion under Prince Maximilian's Herpetological Publications), which is referenced in the footnote description in *Reise* 2 (1821).

Fig. 20. Shared lectotype of *Elaps corallinus* Wied and *Micrurus corallinus* (Merrem, 1820), AMNH R-3911.

Wied's species is both a junior synonym and a junior homonym of Merrem's; they are also based on the same specimens. It was just a case of two friends sharing materials and ideas and publishing without much concern for priority (in the happy days before the International Commission on Zoological Nomenclature).

Elaps corallinus is listed as species no. 168 in Wied's manuscript catalog; there are two specimens. Roze (1966) discussed the case and designated AMNH R-3911 as lectotype of both Merrem's and Wied's species, and AMNH R-3935 as paralectotype of both species. The first is in poor condition, the second in relatively good condition (figs. 20–21).

There is no way of assigning a type locality: Wied mentions Tiririca (22°53′S, 42°22′W) and Belmonte (15°51′S, 38°54′W). Müller, 1927: 301 restricted the type locality to Rio de Janeiro.

Elaps marcgravii Wied, 1820
Plate 41 and figure 22 (shared holotype)

1821? *Nova Acta* 10: 109.

1821 *Reise* 2: 75 (reference to preceding description and to Merrem).

1823 *Abbildungen*: Lief. 3.

1824 *Isis*: 669 (reference to the *Abbildungen*).

1825 *Beiträge*: 415, 604, pl. 2 (figs. 9–10).

PRESENT STATUS: *Micrurus ibiboboca* (Merrem, 1820).

REMARKS: Like the preceding, this name also dates from the *Nova Acta* coral snake paper (usually dated 1820, but see discussion

Fig. 21. Shared paralectotype of *Elaps corallinus* Wied and *Micrurus corallinus* Merrem, 1820, AMNH R-3935.

under Prince Maximilian's Herpetological Publications).

This case is very similar to that of *Elaps corallinus* above, except that this time Merrem and Wied used different names for the same species. The authors decided to honor Marcgrav differently: Wied used the patronymn *marcgravii*, Merrem the aboriginal name *ibiboboca* that Marcgrav had adopted for the snake.

Elaps marcgravii is shown as species no. 169 in Wied's manuscript catalog; there are two specimens in the collection. Roze (1966), concluded that AMNH R-3937 is the holotype of both *ibiboboca* and *marcgravii* because "it has practically the same ventral and subcaudal counts (210 and 24 [Roze's counts]) as mentioned by Merrem, and by Wied (210 and 23)." This specimen is 755 + 54 = 809 mm total length. The type locality (only a single locality was given) is the mouth of the Rio Belmonte, now Jequitinhonha, at 15°51′S, 38°53′W.

Roze did not give data on the other specimen, which is AMNH R-3998. It is a female measuring 543 + 37 mm, with 208 ventrals and 19 subcaudals.

Crotalus horridus, Daudin
Plate 42

1821 *Reise* 2: 231 (Cobra Cascavelha).
1824 *Isis*: 669 (listed).
1825 *Beiträge*: 435, 601.
1827 *Abbildungen*: Lief. 11.

PRESENT STATUS: *Crotalus durissus* ssp.

REMARKS: There are no specimens in the collection.

Lachesis rhombeata Wied, 1824
Plates 43, 44

1820, 1821 Reise 1, 2: various places.
1824 *Isis*: 670 (listed [no diagnosis] with reference to the *Abbildungen*).
1824 *Abbildungen*: Lief. 5 (2 pls.).
1825 *Beiträge*: 449, 605.

Fig. 22. Shared holotype of *Elaps marcgravii* Wied, 1820, and *Elaps ibiboboca* Merrem, 1820, AMNH R-3937.

Fig. 23. A specimen of *Cophias jararaca* Wied (AMNH R-4025); formerly indicated as "holotype" in AMNH records, but confirmation is lacking.

PRESENT STATUS: *Lachesis muta rhombeata* Wied, 1824.

REMARKS: Wied's *surucucu* or *surukukú* in the *Reise* are incidental and informal: it is there now called either by its common name or by *Crotalus mutus*. A proper diagnosis is contained in the text that accompanies Lieferung 5, which contains two plates; one plate (see pl. 43) is a full color view, whereas the other one (pl. 44) has detailed black and white renditions of the head (ventral, dorsal, and lateral views), body scales, and underside of tail (including a partially everted hemipenis, also shown in the color plate).

There is no way of assigning a type locality. There are no specimens in the collection.

Cophias jararaca Wied, 1824
Plates 45–46 and figure 23 (not a type)

1820, 1821 *Reise* 1, 2: various places.

1824 *Isis*: 670 (as *Cophias atrox*).

1824 *Abbildungen*: Lief. 7 (pl. labelled *Cophias atrox* Merr., a juvenile), Lief. 8 (pl. labelled *Cophias jararaca*).

1825 *Beiträge*: 470 (as *Cophias jararakka*), 603 (discussion of variant spellings and pronunciations: *Chiararague*, *Jararaca*, *Jararakka*, *Xararaca*), 606 (note on coloration of *C. Jararaca*).

PRESENT STATUS: *Bothrops jararaca* (Wied, 1824).

REMARKS: The several places in the *Reise* where Wied mentions the *jararaca* are incidental and without systematic value. In fact, he refers to it either as "jararakka" or *Cophias atrox*. In the *Isis* for 1824 the entry is "*C[ophias]. atrox* Merr. Die Jararakka." The change of opinion came after the plate (see pl. 45) for Lieferung 7 of the *Abbildungen* had already been printed: this plate, of a young specimen ("pullus"), is entitled "*Cophias atrox*" and the text is headed "*Cophias jararaca*...aus der Kupfertafel *Cophias atrox*." The text has a footnote reference to a second plate (pl. 46), of an adult specimen, appearing in Lieferung 8 (for which there is no separate text, at least not in the AMNH copy of the *Abbildungen*). But both specimens are described in the text to Lieferung 7.

This text and the plates comprise the original description of *Cophias jararaca* and the specimens figured are the original syntypes. In the *Beiträge* Wied used the German spelling of *Jararakka* and gave data on the two syntypes and on two additional specimens. In the collection there is one specimen, a female, AMNH R-4025. The relevant data are:

	Beiträge Syntypes				AMNH 4025
	(1)	(2)	(3)	(4)	
Body length	1345	481	611	481	745
Tail length	162	79	104	79	125
Ventrals	201	196	194	188	201
Subcaudals	59	64	66	68	60

AMNH R-4025 practically coincides with the adult syntype in scale counts, but there is a large and unredeemable difference in length. There seems little chance of a misprint, as the measurements are repeated in the *Abbildungen* and in the *Beiträge*. Additionally, there is no resemblance to the plates. We must conclude that neither of the syntypes of *Cophias jararaca* is at hand. In no place is a locality indicated.

Cophias bilineatus Wied, 1821
Plate 47 and figure 24 (holotype)

1820 *Reise* 1: 248.

1821 *Reise* 2: 339.

1824 *Abbildungen*: Lief. 5.

1824 *Isis*: 670 (listed with reference to the *Abbildungen*).

1825 *Beiträge*: 483, 605, pl. 3 (figs. 3–4).

PRESENT STATUS: *Bothrops bilineatus* (Wied, 1821), aka *Bothriopsis bilineata*.

REMARKS: In the first volume of the *Reise* Wied mentions incidentally a green viper. In the "corrections and additions" at the end of the second volume, explicitly referring to that page and that viper, Wied presents a formal description. In the *Abbildungen* a good plate is given of the whole animal. In the *Beiträge* measurements and scale counts are presented of the Wied specimen and of an additional specimen in a Dutch collection.

The type measured 554 + 79 mm, had 208 ventrals and 66 subcaudals. AMNH R-4006, a male, measures 505 + 80 mm, and has 208 ventrals; the caudals cannot now be counted. We conclude that AMNH R-4006 is the holotype.

The mention of the snake in the *Reise* was made when Wied was staying at Villa Viçoza, successively known as Marobá and nowadays Nova Viçosa (17°53′S, 39°22′W).

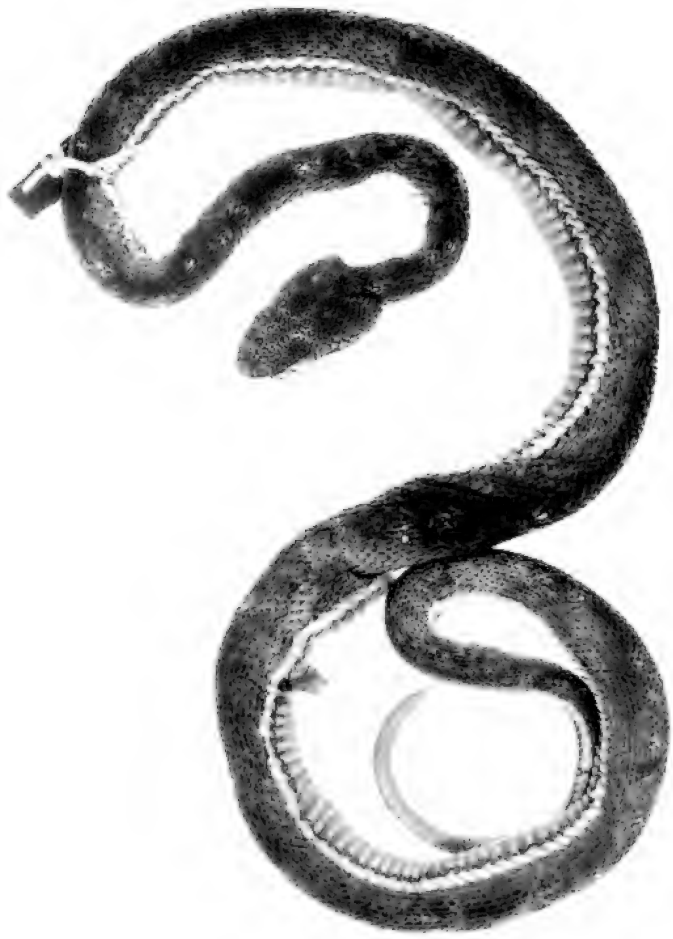


Fig. 24. Holotype of *Cophias bilineatus* Wied (AMNH R-4006).

Cophias holosericeus Wied, 1821

1821 *Reise* 2: 243.
1824 *Isis*: 670 (mentioned).
1825 *Beiträge*: 490.

PRESENT STATUS: A nomen oblitum, possibly equal to the later-named *Xenodon rabdocephalus* Wied, 1824.

REMARKS: This species was formally described in the *Reise*, based on one specimen from Cabeça de Boi in Bahia (13°50′S, 39°17′W). In the 1824 *Isis* the species is mentioned as "unbestimmt," i.e., at best doubtful. In the *Beiträge*, after a description as usual, Wied made some very surprising comments. After he rearranged his arguments and observations, Wied concluded that essentially the specimen had disappeared from its bottle, but that the description fitted exactly *Coluber rabdocephalus*. An error had been made in identifying a colubrid as a viperid (extenuations were offered). Wied saw two alternatives: the snake would be rediscovered, or sunk in the synonymy of *C. rabdocephalus*. The point may have been germane at the time of writing, but has long since ceased to have any importance, as the name—a nomen oblitum—has fallen into the limbo of indeterminacy. Boulenger (1896: 535), for example, included it in the synonmy of the composite species *Lachesis lanceolatus* and

Fig. 25. Holotype of *Amphisbaena punctata* Wied (AMNH R-1101).

Peters and Orejas-Miranda (1970: 55) have it as *Bothrops* incertae sedis (probably *atrox*, *jararaca*, or *jararacussu*).

Typhlops leucogaster Wied, 1824

1824 *Isis*: 670 (brief diagnosis).
1825 *Beiträge*: 495.

PRESENT STATUS: Uncertain, probably an amphisbaenid; nomen dubium.

REMARKS: This name was not indexed by Boulenger (1896) or by Peters and Orejas-Mirand (1970). Dixon and Hendricks (1979: 7), however, probably are correct in suggesting that it is an amphisbaenid of the genus *Leposternon*.

Curiously, the first page of the *Beiträge* account refers to the *Abbildungen*, with an apparent title ("Cobra de duas cabeças an der Ostküste von Brasilien") for a plate perhaps intended but never published. Wied's (1825: 497) measurements of about (*etwa*) 15 inches total length and 1.2 inches tail length convert to 367 mm total, 29.3 mm tail length; tail length/total length = 0.08. The type locality is Lago d'Arara (not "d'Ardra" as in the type description).

The type locality is Lago d'Arda, near Mucuri, Bahia, The holotype was not

preserved. Wied (1825: 496), so there are no specimens in the collection.

Amphisbaena punctata Wied, 1824
Plate 48 and figure 25 (holotype)

1824 *Isis*: 670 (diagnosis).
1825 *Abbildungen*: Lief. 9 (fig. 1 of composite pl.).
1825 *Beiträge*: 500.

PRESENT STATUS: *Leposternon microcephalum* Wagler, 1824, is the senior synonym of this widespread species.

REMARKS: Wied's excellent plate has for a long time made it clear that the species is the same as *Leposternon microcephalum*—a fact evident even to Wied (*Beiträge*: 506). Gans (1971: 445) agreed with AMNH staff[33] that AMNH R-1101 is the holotype of *Amphisbaena punctata*, making the following observations:

> The specimen [AMNH R-1101]...was in poor condition but the remaining characteristics were in good agreement with Wied's description. There can thus be little doubt that it represents the holotype, that the type locality is Rio de Janeiro,...and that the name *punctata* is a strict synonym of *microcephalum*.

Unfortunately, examination of the old AMNH book catalog gives no support for the locality "Rio de Janeiro," which was added in a different hand and at a later time than the original entry—possibly a supposition from the fact that Rio de Janeiro is the first locality mentioned in the *Abbildungen* text and in the *Beiträge*. It is species number 73 from "Brasilien" in Wied's manuscript catalog (which never gives explicit localities), and the type locality therefore is simply eastern Brazil.

Although the date of publication is usually given as 1825 for Wied's *Amphisbaena punctata* (e.g., Peters and Donoso-Barros, 1970: 168; Gans, 1971: 451), it was acually diagnosed in the 1824 *Isis*, the same year in which Wagler described *Leposternon microcephalum* from Spix's collection (Wagler's work "was published no later than January 1824" fide Adler, 1981: v). Wied (1825: 506), however, felt that he had priority, stating definitely that Spix (i.e., Wagler, 1824)[34] described *L. microcephalum* after seeing the printed plate and respective text of *A. punctata*. (But he did not make clear whether these were shown to Spix as a preprint or shortly after publication, which would have been well after the appearance of Wagler's 1824 description of Spix's specimen].) Wied went on to criticize the color plate that Spix—"the learned traveller" (*der gelehrte Reisende*)—had published (Wagler, 1824, pl. 26, fig. 2–4). Wied noted that Spix's specimen had probably been bleached in alcohol, whereas his own painting had been made from a fresh individual.

Years later, in writing up the manuscript catalog of his collection, Wied accepted the genus *Leposternon* but maintained *punctata* with his authorship:

> Genus 77. *Lepidosternon* Wagl.
> 1. *punctatus* Wied. Brasilien (no. 73)

It is our opinion that Wied's claim may have moral value but no legal strength. Wied's unused name *Amphisbaena punctata* is by now a nomen oblitum and could be used only if considered not synonymous with *microcephalum*.

Amphisbaena flavescens Wied, 1824
Plate 48 and figure 26 (lectotype)

1824 *Isis*: 670 (diagnosis).
1825 *Abbildungen*: Lief. 9 (fig. 2 of composite pl.).
1825 *Beiträge*: 507.

PRESENT STATUS: *Amphisbaena alba* Linnaeus, 1758.

REMARKS: The publication date for *Amphisbaena flavescens* usually is given as 1825, but the 1824 *Isis* has priority. We could find no text for this species in the *Abbildungen*, but the plate is admirable.

In the *Beiträge*, Wied mentioned two specimens, with measurements and scale counts for one. In the collection there are two specimens: AMNH R-1098 was designated by Gans (1962: 6–7) as the lectotype; he

[33] After earlier stating that the holotype was not at AMNH with other Wied types and was probably lost (Gans, 1967: 82), it was called to his attention by Senior Technician George Foley, who played an important role in managing and conserving the AMNH herpetological collection over a 30-year period (Myers, 2000: 103–104).

[34] Wied treated Spix rather than the young Wagler as the responsible party in this complaint. Wagler's *Serpentum brasiliensium* nowadays is cited as a stand-alone book, but alternatively it could have been cited as Wagler in Spix (1824a–1824b). It was based on Spix's notes and specimens and was published by Spix as part of his planned eight-volume *Animalia...species novae*, with three herpetological parts.

Fig. 26. Lectotype of *Amphisbaena flavescens* Wied (AMNH R-1098).

expressed doubts as to whether AMNH R-1097 was an original syntype. Localities mentioned by Wied were the Sertong von Bajía and the Gegend des Flusses Belmonte.

The relevant data are:

	Beiträge	AMNH	
		1098	1097
Body length	434	437	500
Tail length	38	34	45
Body annuli	222	221	230
Tail annuli	14	12	14

It is quite evident that Gans was right in choosing AMNH R-1098 as the lectotype of this species. AMNH R-1097 has a further decisive (and negative) characteristic: it has 10 preanal pores, a number that does not occur in the Atlantic Forest.

The type locality was "restricted" by Gans to the mouth of the Rio Mucuri (18°05′S, 39°34′W).

SPECIES ACCOUNTS: AMPHIBIANS

Caecilia lumbricoides Daudin

1824 *Isis*: 670 (listed).
1825 *Beiträge*: 514.

PRESENT STATUS: The identification of Wied's specimen is uncertain, but Daudin's species *lombricoidaea* (of which *lumbricoides* and *lumbricoidea* are emendations) has long been in the synonymy of *Caecilia gracilis* Shaw, 1802 (Boulenger, 1882: 95; Taylor, 1968: 385).

REMARKS: Wied listed the name in both the 1824 *Isis* and in the *Beiträge* with a question mark, indicating uncertainty of identification. It is not indexed in his

1860 manuscript catalog, and there are no specimens in the collection. He found the animal dead and possibly did not preserve it.

Hyla faber Wied, 1821
Plate 49

1820 *Reise* 1: 173.
1821 *Reise* 2: 241, 248–249 (description).
1824 *Isis*: 670 (diagnosis).
1824 *Abbildungen*: Lief. 7 (figs. 1–2 of composite pl.).
1825 *Beiträge*: 519, 603.

PRESENT STATUS: *Hyla faber* Wied, 1821.

REMARKS: Prince Maximilian was impressed by the voice of the "blacksmith" frog, mentioning in the *Beiträge* that he was impatient to become acquainted with the frog itself, and had his Brazilian workers collect some with the aid of burning torches. For the species name, he chose the Latin noun *faber*—meaning an artisan or workman. The reason for the name was laid down in the first volume of his "Travels" (*Reise* 1: 173):

> Not far from the *fazenda* [de Agá], a high rounded, isolated mountain named *Morro de Agá* rises from the nearby forest...I found near the buildings a small swamp, where I first heard with astonishment the distinctive voice of a frog previously unknown to me. It sounded exactly like a tin- or coppersmith working with his hammer, only the sound altogether was deeper or fuller. I later became better acquainted with the animal, which the Portuguese call the Smith (*Ferreiro*) because of its voice.

Wied mentioned the Ferreiro at Rio de Contas in the second volume (*Reise* 2: 241). The formal description of *Hyla faber* came a few pages later in a footnote in *Reise* 2, in a discussion of fauna at "Fazenda von S. Agnés" (= Santa Inês), which Müller (1927: 265) and Bokermann (1966a: 50) appropriately considered as type locality.

The type locality of *Hyla faber* was shared with the smaller *Hyla aurata* (see below), which was named on the same page. Wied made field paintings of both species on the same leaf of paper, as shown in Bosch (1991: 270–271, item 107[35]). Because *H. aurata* was found only at S. Agnés (Santa Inês), the joined field paintings seem to confirm the locality of the painted specimen of *H. faber* (see pl. 49). He confirmed in the *Abbildungen* text account that *H. faber* was found in the company of *H. aurata* in pools at S. Agnés. He summarized his observations on distribution in the *Beiträge*, based more on the distinctive call of *H. faber* than on collections.

There are no specimens in the collection and *Hyla faber* is not listed in Wied's 1860 manuscript catalog, indicating that his specimens had disappeared before the catalog was written.

Hyla punctata Wied, 1824
Plate 49

1824 *Abbildungen*: Lief. 7 (fig. 3 of composite pl.).
1825 *Beiträge*: 605 (appendix).

PRESENT STATUS: *Hyla punctata* Wied, 1824, *non* Schneider, 1799 = *Hyla infulata* Wied.

REMARKS: *Hyla punctata* Wied, 1824, is a junior homonym of *Calamita punctata* Schneider (1799: 170–172), which had been transferred to *Hyla* within a few years of its naming (Daudin, 1802: 41–42). Its replacement name is *Hyla infulata* Wied (see below).

The painting (see pl. 49) shows a small green frog sparsely dotted with black on the body, with a dark canthal stripe, and with a brown interocular bar, from which a paler brown marking extends medially forward to the snout. Wied noted that it was "in der Gegend der Fazenda von Vareda unweit der Gränzen von Minas Geraës gefunden."

The accompanying text gives no reference to an authority (hence, following Wied's usual style, it is to be taken as a new species) and no page citations to Wied's own works. Few workers have noticed that, except for

[35] The Bosch editors misidentified the *H. aurata* illustration as "*Hyla punctata*" in the explanatory text. The *H. aurata* was later repainted to go on an *Abbildungen* plate containing two other small hylids (see pl. 51), whereas *H. punctata* was inserted between dorsal and ventral views of *H. faber* (see pl. 49). The field sketch in Bosch (1991: 271, 323) shows only the dorsal view of *H. faber*, the markings of which were accurately copied by Hermann Beckers for the published plate, although the ground color now differs somewhat. Beckers' layout for the entire plate also is shown in Bosch (1991: 323).

Fig. 27. Lectotype of *Hyla crepitans* Wied, 1824 (AMNH A-785).

some rephrasing, the text description of *Hyla punctata* in the *Abbildungen* is virtually identical to the later *Beiträge* description for *Hyla infulata*. The same length ("11a Linien") was given for each, the same collecting situation (on leaves of *Ricinus*[36]), and the same vernacular name—"Punctirter Laubkleber" ("dotted leafsticker"), with the qualifier "mit der Stirnbinde" ("with the headband") added in the *Beiträge* account.

The name *Hyla punctata* of Wied makes its first appearance in the *Abbildungen* and only once more in the *Beiträge*, where Wied stated in the appendix that he had named the frog *Hyla infulata*, because "der Name *punctata* kann nich bestehen" ("the name *punctata* can not stand"), since he had discovered a previous use.[37] According to Bokermann (1966a: 52–53), Wied issued a substitute page of *Abbildungen* text with the replacement name *Hyla infulata*. The corrected page is lacking in the AMNH copy of the *Abbildungen*. Rarity of the corrigendum and inattention to the *Beiträge* appendix explains why only a few authors such as Boulenger (1882: 356) and Bokermann (1966a: 59) have recognized

[36] *Ricinus*, the treelike castor bean or castor oil plant, thought to have originated in Africa and evidently a very early introduction to the New World.

[37] Wied said that Shaw had already used the name. We have not seen that reference, but it is immaterial inasmuch as *Hyla punctata* (Schneider) already had priority over Wied's name.

that Wied's *punctata* was intended as a new species description and that *Hyla infulata* is the replacement name. (Frost [2002] recognized both the validity of the description and the homonymity with Schneider's name, and placed *Hyla punctata* Wied as incertae sedis under the Hylinae.) Further remarks are given under *Hyla infulata* below.

Hyla crepitans Wied, 1824
Plate 50 and figure 27 (lectotype)

1824 *Isis*: 671 (diagnosis).
1824 *Abbildungen*: Lief. 8 (fig. 1 of composite pl.).
1825 *Beiträge*: 525.

PRESENT STATUS: *Hyla crepitans* Wied, 1824.

REMARKS: In 1824, this species was diagnosed in the *Isis* of 1824 and portrayed in the *Abbildungen*; a single specimen was subsequently described in the *Beiträge*, preceded by the diagnosis copied from the *Isis*. Although several localities were mentioned (see below), there is nothing written to indicate that Wied actually preserved more than one specimen, although it seems probable that he did. It is species no. 300 in Wied's 1860 manuscript catalog, represented by one specimen in the collection, AMNH A-785.

Duellman (1977: 48) assumed that there originally had been more than one specimen and cited AMNH A-785 as a syntype, which was accepted by Kluge (1979: 10), who subsequently designated it as lectotype. In the absence of a known type series, this specimen might also have been regarded as holotype, but we accept the lectotype designation on practical grounds.

The specimen (fig. 27) is in poor condition, very soft, with the rear of the body nearly separated and with the limbs detached or nearly so. Reasonably accurate measuring of such a flabby, broken specimen is now impossible, but, in 2003, Myers measured the specimen at "*roughly* 62 mm SVL," prior to converting Wied's measurement to a close 61.1 mm.[38] There is faint indication of a broken dark median line from the snout onto the anterior body; the body is sparsely but conspicuously marked with dark dots. The rear of thigh and flank have dark vertical bars, which on close inspection are seen to be doubled as seen in Wied's 1824 illustration (see pl. 50). The plate shows an overall coloring of light and darker gray, with an interrupted dark median line and with narrow double black bars on the flank and posterior thighs, and a reddish suffusion on the flank and parts of the hind limbs.

In the *Beiträge*, Wied said that he had found this "wide-jumping fast leafsticker" (*weitspringende schnelle Laubkleber*) in the vicinity of the old *fazenda* Tamburil [Tamboril] in the backcountry of Bahia. It seems most likely that Wied would have kept his first specimen, and, since only one specimen (the "lectotype") is definitely known to have been preserved, Tamboril (14°58′S, 41°25′W) can be *assumed* to be the actual type locality, as believed by Bokermann (1966a: 48). Wied also found the species in March in the marshes and pools between Arrayal da Conquista and Jiboya. He described the call as a loud *Knaken* similar to the breaking of a piece of wood.

As indicated by Kluge (1979: 11), the frogs being called "*Hyla crepitans*" in Panama and Colombia probably are not conspecific with Prince Maximilian's Brazilian species.

Hyla elegans Wied, 1824
Plate 51 and figure 28 (holotype)

1824 *Isis*: 671 (diagnosis).
1824 *Abbildungen*: Lief. 7 (fig. 1 of composite pl.).
1825 *Beiträge*: 529.

PRESENT STATUS: *Hyla elegans* Wied, 1824.

REMARKS: This elegant little frog was diagnosed in the *Isis* of 1824 and illustrated in the *Abbildungen*, before being described in the *Beiträge*. Wied saw this frog, sticking to leaves, at only one place. The type locality, given in the *Abbildungen* and *Beiträge*, is Ponte do Gentio, Rio Alcobaça at 17°30′S, 39°25′W (Vanzolini, 1992: 133).

The holotype, AMNH A-784 (fig. 28), is in poor condition, having lost a large patch of dorsal skin and with limbs falling off; it is a female with a large decomposed and solidified egg mass. A measurement in 2003

[38] Kluge (1979: 10) had much earlier measured this specimen at 66.0 mm SVL, which could be repeated today depending on how the calipers are handled and how much the specimen is stretched or compressed. There are no standards in this process. But Kluge's conversion of Wied's *2 Zoll 6 Linien* to "about 64 mm" [63.5 mm precisely] was based on the modern foot.

Fig. 28. Holotype of *Hyla elegans* Wied, 1824 (AMNH A-784).

gave 30 mm SVL, essentially the same as Wied's converted 29.3 mm.

As can be seen from figure 28, the color pattern is virtually extinct. Duellman (1974: 18) probably inferred the existence of an "hour-glass-shaped dark brown dorsal mark on a creamy tan ground color" more from the *Abbildungen* plate than from this very faded specimen. If the specimen is kept in alcohol and examined under a dissecting scope, with proper light adjustment, vestiges of several markings paler than adjacent skin can be discerned, as follow: (1) a pale triangular area atop the snout in front of eyes; (2) a broad pale dorsolateral stripe extends from the eye posteriad at least past midbody; (3) hint of a pale line atop tibia. These several pale areas are obviously remnants of the color pattern shown in plate 51. Ventrally, the skin at least of the belly is strongly granular, as indicated in the plate. The coloration of the preserved frog in the *Abbildungen* plate may have come from Wied's field sketch of another specimen (thought by him to be a male) that he painted in life, perched on a leaf (colored inset in Bosch, 1991: 232).

This is species no. 298 in Wied's 1860 manuscript catalog, where it is listed in one place (p. 50) as "*H. elegans* Wied (?*leucophyllata* D.B.)" and in another place (p. 79) as "*Hyla elegans* W (*H. leucophyllata* Holbr.?)." The species was synonymized with *Hyla leucophyllata* (Beireis) by Günther (1858: 112), where it remained for a long time. Bertha Lutz (1973: 103) had examined the holotype at AMNH and, although she did not

disturb the synonymy, she directly associated the name *elegans* with the "southern form" of *leucophyllata*, which she described in useful detail.[39] Caramaschi and Jim (1982) mentioned distinguishing characters and resurrected Wied's *Hyla elegans* after more than 150 years of synonymy.

Hyla aurata Wied, 1821
Plate 51

1821 *Reise* 2: 249.
1824 *Isis*: 671 (diagnosis).
1824 *Abbildungen*: Lief. 7 (fig. 3 of composite pl.).
1825 *Beiträge*: 531.

PRESENT STATUS: *Scinax auratus* (Wied, 1821).

REMARKS: This species was named in the *Reise*, subsequently diagnosed in the *Isis*, illustrated in the *Abbildungen*, and treated in most detail in the *Beiträge*. The type locality ("S. Agnés," Bahia) = Fazenda Santa Inês (Bokermann, 1957: 238; 1966a: 45, 118). For reference to Wied's field sketch of *Hyla aurata*, see discussion above under *Hyla crepitans*, which shares the same type locality.

Hyla aurata is not listed in Wied's 1860 manuscript species catalog, and there are no specimens in the collection. Rediscovery of the species was reported by Bokermann (1969) and by Lutz (1973: 167). Duellman and Wiens (1992) designated a neotype.

Hyla infulata Wied, 1824
Plate 49 (as "*Hyla punctata*")

1824 *Isis*: 671 (diagnosis).
1825 Beiträge: 533, 605.

PRESENT STATUS: *Hypsiboas infulatus* (Wied, 1824), new combination.

REMARKS: Wied referred to the *Abbildungen* on the first page of the *Beiträge* account of *Hyla infulata*, which has to be the plate (pl. 49) originally labeled *Hyla punctata* (q.v.). *Hyla infulata* is Wied's replacement name for the preoccupied *punctata*, as discussed under that name above. Both names share identical authorship and year of publication, *punctata* from the 1824 *Abbildungen* plate, and *infulata* from the 1824 *Isis*.

In the *Beiträge*, Wied noted that he had found *Hyla infulata* "Im Sertong der *Capitania da Bahia,*" but he did not give a precise locality there or in the earlier *Isis*, leading authors (e.g., Cochran, 1955: 164) to the conclusion that the "type locality [was] not given." However, the type locality is that given under the original name *Hyla punctata* (see above)—the vicinity of Fazenda von Vareda near the border of Minas Gerais. Bokermann (1957: 236) thought that the locality was about 30 km from the Barra de Vereda, and later (1966: 52) give it as "'Fazenda da Vareda' Inhobim, Bahia."

Hyla infulata subsequently was included with several other species in the nominal group *Centrotelma* Burmeister (1856: 97). Günther (1858: 98) synonymized *Centrotelma* with *Hyla,* and he questionably placed *infulata* under *Hyla albomarginata* Spix, where it resided for a long time (e.g., Boulenger, 1882: 356; Cochran, 1955: 164; Lutz, 1973: appendix; Duellman, 1977: 24, 26; Frost, 2002). However, Bokermann (1966a: 52) followed Günther in placing the question mark before this assignment, which is indeed open to question, as is the default distribution: "Caribbean lowlands of Colombia to Guianas, lower Amazon Basin, and Atlantic forests of eastern Brazil from Pernambuco to Santa Catarina" (see further comment in Frost, 2014, accessed April 2014).

Wied's illustration (pl. 49) and detailed color description of *Hyla infulata* in the *Beiträge* seem adequate for determining the matter by anyone familiar with the variability of *H. albomarginata* in life. Wied's figure looks nothing like the original illustration of *Hyla albomarginata* (Spix, 1824a, 1824b: pl. 8, fig. 1), which, for that matter, bears no color resemblance to a photograph of a living frog identified as *albomarginata* (Lutz, 1973: pl. 2).

Neither name, *Hyla punctata* nor *Hyla infulata,* appears in Wied's manuscript catalog. There are, however, two specimens of *Hyla albomarginata* (AMNH A-498, 499) cataloged as from Rio de Janeiro and purportedly from the Maximilian collection; these seem to have never been identified even

[39] Lutz was somewhat ambivalent—although she did not explicitly give species status to *Hyla elegans,* neither did she put the name in the list of synonyms in her appendix B. In discussing the holotype (AMNH 784), Lutz mentioned two speciesmen numbers, of which one is an error ("Maximilian 219") and the other correct (Maximilian 298). There is also an old AMNH bird or mammal tag in the jar bearing the number "15," probably an old card number predating the first amphibian book catalog.

to genus (there is no sign of original catalog entry or subsequent erasure) until they were determined as *H. albomarginata* by Doris M. Cochran in 1942; they are in remarkably fine condition. One specimen is an adult 52 mm SVL. The other (AMNH A-499) is a juvenile 23.8 mm SVL, with a superficial resemblance to Wied's *Hyla punctata* (pl. 49). Presumably green in life, AMNH R-499 has faded to whitish, with scattered black dots dorsally and with a narrow brownish interorbital bar and an isolated anterior spot of the same color between the nares. In addition to the incomplete head marking, it differs noticeably from Wied's painting in (1) possessing a conspicuous pale dorsolateral fold extending from the eye and above the ear to the anterior flank (absent in the painting), and (2) having the canthus and loreal region uniformly pale like the rest of the body (vs. a dark canthal stripe in the painting). These differences and the cataloged locality remove the specimen from consideration as holotype, which probably no longer exists.

Furthermore, it seems unlikely that the aforesaid specimens of *Hyla albomarginata* (AMNH A-498, 499) were collected by Wied. Compared with the few surviving frogs that can definitely be associated with Wied's Brazilian expedition, these two specimens seem much too well preserved. They were entered in volume 1 of the 1920 AMNH amphibian catalog, presumably from earlier card catalogs; several other amphibians on the same page are listed as having been collected at Rio de Janeiro by other collectors (L. Diguet, H.H. Rusby). We suspect that either there has been a cataloging error that can no longer be corrected, or that Wied acquired the specimens by purchase or exchange long after his expedition.

Hyla luteola Wied, 1820
Plate 51

1820 *Reise* 1: 202 (1-line description).
1824 *Isis*: 671 (diagnosis).
1824 *Abbildungen*: Lief. 7 (fig. 2 of composite pl.).
1825 *Beiträge*: 535.

PRESENT STATUS: *Phyllodytes luteolus* (Wied, 1820).

REMARKS: Publication dates not from the 1824 *Abbildungen* as stated by Bokermann (1966b) and others, but from the following footnote in the the 1820 *Reise*:

> Ein noch unbeschriebener kleiner Laubfrosch, *Hyla luteola*, von blassgelblicher Farbe mit einem dunkleren Striche durch das Auge.

The specimen was taken from bromeliads on the way between Quartel do Riacho and Rio Doce, before reaching the Quartel da Regência, then a military outpost with five soldiers and now the city of Regência, which Bokermann (1966a, 1966b) considered the type locality.

"*Hyla luteola* W." is listed as species no. 299 in Wied's 1860 manuscript catalog, but there are no specimens in the collection.

Unknown species
Sapo marinheiro

1820 *Reise* 1: 374.
1825 *Beiträge*: 539.

PRESENT STATUS: Uncertain, presumably a hylid.

REMARKS: Wied was impressed by a large, slender tree frog of a bright *bluish* color (*von hellbläulicher Farbe*) near Villa Viçoza, although it is not clear whether he saw the frog or was relating local knowledge. This *sapo,*[40] or frog, was said to climb high in trees, springing upward especially on the trunks of the *Cocos de Imburí*. *Marinheiro* is Portuguese for "sailor," the allusion apparently being to the frog clambering up a trunk like a sailor up the mast of a ship.

Rana pacybrachion Wied, 1824

1824 *Isis*: 671 (diagnosis).

PRESENT STATUS: *Leptodactylus ocellatus* (Linnaeus, 1758).

REMARKS: We find the name *Rana pacybrachion* only in the 1824 *Isis*. Wied subsquently decided that the specimen represented *Rana pachypus* Spix, which was the name used in the 1825 *Beiträge* (see following species). This is obvious because the same vernacular name ("der dickarmige Frosch") and, especially, the same diagnosis are used both for *pacybrachion* and for *pachypus*.

[40] *Sapo* is both Portuguese and Spanish, being defined as "toad" in dictionaries. Nonetheless, the word also is very commonly used for various kinds of frogs throughout much of the New World tropics.

Bokermann (1966a: 90) picked up the name *pacybrachion* but did not catch that it was identical with *pachypus*. Bokermann suspected that *pacybrachion* "= ?*Leptodactylus*," and listed the type locality simply as "Brasil." However, Wied (*Beiträge*: 544) obtained his specimens of *Rana pachypus* on the rivers Espirito Santo and Jucu, which therefore delimit the type-locality possibilities for his identical *Rana pacybrachion*.

Rana pachypus Spix

1824 *Isis*: 671 (under the name *Rana pacybrachion* Wied; see above).
1825 *Beiträge*: 540.

PRESENT STATUS: *Leptodactylus ocellatus* (Linnaeus, 1758).

REMARKS: As discussed above, Wied first diagnosed this frog under the new species name *pacybrachion*, based on specimens from the Rio Espirito Santo and Rio Jucu. Wied's 1860 manuscript catalog does not list *pachypus* (or *pacybrachion*) and there is no such specimen in the collection.

Rana macrocephala Wied, 1824

1824 *Isis*: 671 (diagnosis).
1825 *Beiträge*: 544.

PRESENT STATUS: Possibly *Ceratophrys aurita* (Raddi) fide Ronald Heyer (personal commun.).

REMARKS: Bokermann (1966a: 89) suggested that it "= ?*Leptodactylus acolytes*." The name is not listed in Wied's manuscript catalog and there are no specimens in the collection. In response to a query from Heyer, Vanzolini used his method (described herein) for converting Wied's measurements to mm, after which Heyer (in e-mail to Myers, July 12, 2002)

> plotted the head length against SVL for a few *C. aurita* specimens, including a single 66 mm juvenile. The data point for the 44 mm SVL *R. macrocephala* falls right on the line for head length measured as length from tip of snout to the head-body joint mid-dorsally. Good enough to satisfy my curiosity as Wied's name appeared a year later than Raddi's *Bufo auitus*.

The type locality is Lagoa da Arara on the lower Rio Mucuri. See under *Agama picta* for a discussion of this important locality.

Rana sibilatrix Wied, 1824
Plate 50 and figure 29 (syntype)

1824 *Isis*: 671 (diagnosis).
1824 *Abbildungen*: Lief. 8 (fig. 2 of composite pl.).
1825 *Beiträge*: 545, 606.

PRESENT STATUS: *Leptodactylus fuscus* (Schneider, 1799).

REMARKS: *Rana sibilatrix* is listed as species no. 301 in Wied's manuscript catalog, and there is one specimen in the collection, AMNH A-485, shown in figure 29. Heyer (1978: 30) notethat, of species along coastal Bahia, Wied's figure can only apply to *Leptodactylus fuscus* as currently recognized. Heyer examined the specimen, noting that it was a male with obvious vocal sacs and concluding that "There is no convincing evidence that associates or disassociates AMNH A-485 with Wied-Neuwied's figure."

Direct comparison of AMNH A-485 against the *Abbildungen* plate reveals that the dorsolateral lines are less distinct in the specimen and that there are too many differences in arrangement and shape of the lateral dark blotches for it to have been the one painted.

We consider AMNH A-485 as the sole surviving syntype of *Rana sibilatrix* Wied. Either it or the lost specimen depicted in the painting could be designated lectotype, but there should be a taxonomic reason in either case.

The type locality is the East Coast (Ostküste) of Brazil. Several localities are mentioned in the *Abbildungen* text and the *Beiträge*, of which Müller (1927: 281) considered the first mentioned (Villa Viçoza) to be type locality.

Wied's original pen-and-watercolor sketch of *Rana sibilatrix* is reproduced in Bosch (1991: 273), shown positioned above two toads (*Bufo cinctus*); this sketch was copied by Beckers (Bosch, 1991: 270, item 108) for the *Abbildungen* plate that shows *Rana sibilatrix* below *Hyla crepitans* (pl. 50). The reason for the shifting of figures can be deduced from the Bosch catalog (1991: 272, item 109), where it is shown that Wied's original name for the plate was to be "*Hyla sibilatrix*" (another name shown, "*Rana 9-carinata*" appears to be an earlier entry), which was changed to *Rana sibilatrix* when the *Abbildungen* text was printed (see comment in caption for pl. 50).

Fig. 29. Surviving syntype of *Rana sibilatrix* Wied, 1824 (AMNH A-485). 5 mm scale line.

Bufo agua, Daudin
Plate 52

1820 *Reise* 1: 52 (as *Bufo bimaculatus*, see following account).
1821 *Reise* 2: 241, 252 (as *Bufo agua*).
1824 *Isis*: 672 (diagnosis).
1824 *Abbildungen*: Lief. 7 (two specimens).
1825 *Beiträge*: 551.

PRESENT STATUS: *Bufo ictericus* Spix, 1824 (*Rhinella icterica* in Frost, 2014).

REMARKS: The name *Bufo agua* s.l. is in the synonymy of *Bufo marinus* (e.g., see Frost, 2002), but most if not all of Wied's observations were made within the range of *Bufo ictericus*.

Wied was impressed by the giant toads and preserved some, but he mentions losing specimens on page 554 of the *Beiträge*. No South American *Bufo* species currently exists in Prince Maximilian's collection and only one (see *Bufo ornatus* below) is mentioned in his 1860 manuscript catalog.

Bufo bimaculatus Wied, 1820

1820 *Reise* 1: 52.
1825 *Beiträge*: 555 (as variety of *Bufo agua*).

PRESENT STATUS: *Bufo ictericus* Spix, 1824, a nomen oblitum (*Rhinella icterica* in Frost, 2014).

REMARKS: This name appears twice in Wied. First in *Reise* 1 as a new species: "ich eine wahrscheinlich noch unbeschriebene Art (*Bufo bimaculatus*), mit zwey grossen dunkeln Feldern auf dem Rücken, bemerkte." Second in the *Beiträge*, where he concluded that it was a variety of *Bufo agua* (see preceding account). The name is misspelled as "the bufo limaculatus" in an English translation (Wied, 1820).

The type locality is Inoã ("Inuá"), Serra de Inoã, given by Bokermann (1966a: 18) as being in Município de Maricá, Rio de Janeiro. There is no specimen in the collection.

Although Bokermann (1966a: 18) assigned the wrong date to *Bufo bimaculatus* Wied, he recognized that it has clear priority over *B. ictericus* Spix. Few other authors have noticed the name *bimaculatus*, which clearly is a forgotten name; it is not mentioned, for example, either in Hoogmoed and Gruber (1983) or in Frost (2002), and it should be considered a nomen oblitum.

Bufo fuliginosus Wied, 1824

1824 *Isis*: 672 (2-line diagnosis).
1825 *Beiträge*: 557.

PRESENT STATUS: A nomen oblitum = *Bufo ictericus* Spix, 1824 (*Rhinella icterica* in Frost, 2014).

REMARKS: The name *Bufo fuliginosus*—"Die dunkelbraune Kröte"—dates from the 1824 *Isis*. Both there and in the *Beiträge*, Wied gave an earlier reference to page 52 of his 1820 *Reise*, where there is only *Bufo bimaculatus* (see above), later called "die zweifleckige Kröte" on page 555 of the *Beiträge*. It seems likely that Wied confused color morphs of the same species and that he was discombobulated by later loss of specimens.

Bufo fuliginosus is listed as Bufonidae incertae sedis by Frost (2002), but Bokermann (1966a: 20) presumably was correct in allocating it to *Bufo ictericus*. Wied's first-mentioned locality for *fuliginosus* in the *Beiträge* was "Serra de Inoã," leading Bokermann (loc. cit.) to arbitrarily assign the type locality of *B. bimaculatus* as the shared type locality of *B. fuliginosus*.

Bufo fuliginous should be considered a nomen oblitum, just like *B. bimaculatus* above.

Bufo crucifer Wied, 1821

1821 *Reise* 2: 132.
1824 *Isis*: 672 (diagnosis).

PRESENT STATUS: *Bufo crucifer* Wied, 1821 (*Rhinella crucifer* in Frost, 2014).

REMARKS: Appended to the *crucifer* definition in the important 1824 *Isis* is the entry "'?*Bufo margaritifer Daud*"—presumably suggesting a resemblance to that species but with no follow-up.

Wied replaced this species in the *Beiträge* with *Bufo ornatus* Spix (non Spix). Wied used the same vernacular name and diagnosis for *ornatus* as he had for *B. crucifer;* he considered *ornatus* and *cuciferi* to be identical.

Bufo ornatus Spix
Plate 53

1821 *Reise* 2: 13, a mistake for *Reise* 2: 132 (*Bufo crucifer*), between Corrego Paiabnha and Ribeirão da Issara.
1825 *Beiträge*: 558, Sertong of Ilheus.
1827 *Abbildungen*: Lief. 11 (figs. 2–3 of composite pl.).

PRESENT STATUS: *Bufo crucifer* Wied, 1821 (*Rhinella crucifer* in Frost, 2014).

REMARKS: Wied used the same vernacular name and diagnosis as he had for his *B. crucifer* He considered them identical as is indicated in his manuscript catalog, which is annotated (for species 215): "*Bufo ornatus* sp., (*crucifer* Wied) Brasilien."

The name *ornatus*, however, is not listed in the important 1824 *Isis*. Wied's figure 2 in the *Abbildungen* is his painting from life; figure 3, labeled "*Oxyrynchus* Spixii," is an uncolored sketch of the head of a specimen from the Leiden Museum.

Bufo cinctus Wied
Plate 54

1823 *Abbildungen*: Lief. 3 (views of two specimens). Reference is to Schinz, nothing to Wied.
1824 *Isis*: 672 (listed with reference to the *Abbildungen*).
1825 *Beiträge*: 564, Rio Espírito Santo a Barra do Jucu.

PRESENT STATUS: *Bufo crucifer* Wied, 1821 (*Rhinella crucifer* in Frost, 2014).

REMARKS: *Bufo cinctus* Wied, 1823, is the junior objective synonym of *Bufo cinctus* Schinz, 1822, fide Myers et al. (2011: 9). The name *Bufo cinctus* was long in the synonymy of *Bufo crucifer*, which = *Chaunus crucifer* fide Frost et al. (2006: 364) but which now = *Rhinella crucifer* fide Frost, 2014.

Wied's original pen-and-watercolor sketch of *Rana sibilatrix* is reproduced in Bosch (1991: 273) positioned above two *Bufo cinctus*, which are shown in reverse order on their own plate.

Ceratophrys varius Wied

1824 *Isis*: 673 (diagnosis).

PRESENT STATUS: *Ceratophrys aurita* (Raddi, 1823), as confirmed by Bokermann 1965: 12. 1965: [Frost, 2014].

REMARKS: Same vernacular name and nearly the same wording in diagnosis as in *C. dorsata* below. Bokermann (1966a: 26) noted it was based on same material as *C. dorsata* and therefore had the same type locality, which had earlier been restricted.

Ceratophrys dorsata Wied
Plates 53, 55

1821 *Reise* 2: 131 (*Bufo cornutus*), between Corrego Piabanha and Ribeirão da Issara.

1824 *Isis*: 673 (diagnosis under the name *Ceratophrys varius* Wied; see above).

1825 *Beiträge*: 576.

1827 *Abbildungen*: Lief. 10 (male), Lief. 11 (female).

PRESENT STATUS: *Ceratophrys aurita* (Raddi, 1823). As confirmed by Bokermann, 1965: 12 [Frost, 2014].

Ceratophrys boiei Wied
Plate 56

1824 *Isis*: 673 (diagnosis).

1825 *Beiträge*: 592, Bahia. Rio de Janeiro.

1829 *Abbildungen*: Lief. 13.

PRESENT STATUS: *Proceratophrys boiei* (Wied, 1824) [Frost, 2014].

REMARKS: This name dates from the 1824 *Isis*, not the 1825 *Beiträge* as given by various workers, including Bokermann (1966a: 25), who restricted or "selected" a type locality.

TAXONOMIC SUMMARY OF THE MAXIMILIAN COLLECTION

This section covers three parts: (1) species collected by Prince Maximilian during his Brazilian expedition in the years 1815, 1816, and 1817; (2) primary type specimens still extant in the Maximilian collection; and (3) nomenclatural changes in the collection. Terminology is consistent with the 1999 International Code of Zoological Nomenclature, chapter 6 in Blackwelder (1967), and cited opinions of the International Commission.

The order of species presentation is that of the *Beiträge*.

SPECIES COLLECTED BY PRINCE MAXIMILIAN

The following list of 61 new species of Brazilian reptiles and amphibians attributed to Prince Maximilian zu Wied includes 1 turtle, 3 amphisbaenians, 8 lizards, 33 snakes, 16 frogs and toads.

TURTLE (1)
Testudo depressa Wied, 1821—*Emys depressa* (Wied), 1824

AMPHISBAENIANS (3)
"Typhlops" leucogaster Wied = nomen dubium
Amphisbaena flavescens Wied
Amphisbaena punctata Wied

LIZARDS (8)
Agama catenata Wied
Agama picta Wied
Anolis gracilis Wied
Anolis viridis Wied
Gekko armatus Wied
Gekko incanescens Wied
Stellio torquatus Wied
Teius cyanomelas Wied

SNAKES (34)
Boa aquatica Wied
Coluber acuminatus Wied
Coluber bicarinatus Wied
Coluber carinicaudus Wied
Coluber chrysogaster Wied
Coluber collaris Wied
Coluber dictyodes Wied
Coluber erythrogaster Wied
Coluber formosus Wied

Coluber herbeus Wied
Coluber laevicollis Wied
Coluber lichtensteinii Wied
Coluber liocercus Wied
Coluber marginatus Wied
Coluber merremii Wied
Coluber modestus Wied
Coluber pileatus Wied
Coluber plumbeus Wied
Coluber poecilogyrus Wied
Coluber poecilostoma Wied
Coluber pyrrhopogon Wied
Coluber rabdocephalus Wied
Coluber saurocephalus Wied
Coluber testaceus Wied
Coluber undulatus Wied
Coluber variabilis Kuhlii Wied
Coluber venustissimus Wied
Cophias bilineatus Wied
Cophias holosericeus Wied
Cophias jararaca Wied
Elaps corallinus Wied
Elaps marcgravii Wied
Lachesis rhombeata Wied

FROGS AND TOADS (16)
Bufo bimaculatus Wied
Bufo cinctus Wied
Bufo crucifer Wied
Bufo fuliginosus Wied
Ceratophrys boiei Wied
Ceratophrys dorsata Wied
Ceratophrys varius Wied
Hyla aurata Wied
Hyla crepitans Wied
Hyla elegans Wied
Hyla faber Wied
Hyla luteola Wied
Hyla punctata Wied
Rana macrocephala Wied
Rana pacybrachion Wied
Rana sibilatrix Wied

Primary Type Specimens Still Extant in the Maximilian Collection

The following primary types of reptiles and amphibians are still extant in the Maximilian collection. Codes: * = holotype; ** = lectotype; ∫ = shared holotype for two species; § = shared lectotype for two species.

AMPHISBAENIANS (N=2)
Amphisbaena flavescens Wied**
Amphisbaena punctata Wied*

LIZARDS AND SNAKES (N = 14)
Agama picta Wied*
*Pantodactylus nicefori Burt and Burt**
Coluber acuminatus Wied*
Coluber carinicaudus Wied*
Coluber lichtensteinii Wied*
Coluber liocercus Wied*
Coluber plumbeus Wied*
Coluber poecilogyrus Wied**
Coluber poecilostoma Wied**
Coluber rhabdocephalus Wied**
Coluber variabilis Wied*
*Cophias bilineatus Wied**
(*Elaps corallinus* Merrem + *Elaps corallinus* Wied)§
(*Elaps ibiboboca* Merrem + *Elaps marcgravii* Wied) ∫

FROGS (N=3)
Hyla crepitans Wied**
Hyla elegans Wied*
Rana sibilatrix Wied*

Some species in the above list—formerly identified as "types" or "cotypes"—are newly identified as holotypes or newly designated as lectotypes.

Two species of Maximilian snakes, long listed as "types" at AMNH, are judged not to qualify and are removed from the list of types for reasons given herein they are *Coluber pileatus* Wied (AMNH R-2801) and *Cophias jararaca* Wied (AMNH R-4025).

Nomenclatural Update for the 18th-Century Names Used or Introduced by Prince Maximilian

Types are unknown for other species named by Wied, although some may be in European museums. The following list shows the current status of the species named by Wied and also the status of older names applied by Wied to his own specimens; a comma after one of the latter names indicates that the authority for Wied's use of the name is not its original author. Nomenclatural procedure had not yet been formalized in Wied's time.

Caretta esculenta Merrem, 1820 = *Caretta caretta* (Linnaeus, 1758)
Caretta imbricata, Merrem, 1820 = *Eretmochelys imbricata* (Linnaeus, 1766)
Caretta cephalo Merrem, 1820 = *Caretta caretta* (Linnaeus, 1758)
Sphargis mercurialis Merrem, 1820 = *Dermochelys coriacea* (Vandelli, 1761)
Emys depressa (Wied, 1821) = *Acanthochelys spixii* (Spix, 1824)
Emys radiolata Mikan = *Acanthochelys radiolata* (Mikan, 1820)
Testudo tabulata, Linnaeus = *Chelonoidis denticulatus* (Linnaeus, 1766)
Crocodilus sclerops Schneider = *Caiman latirostris* (Daudin, 1802)
Gekko incanescens Wied, 1824 = *Hemidactylus mabouia* (Moreau de Jonnès, 1818)
Gekko armatus Wied, 1824 = *Hemidactylus mabouia* (Moreau de Jonnès, 1818)
Anolis gracilis Wied, 1821 = *Anolis punctatus* Daudin, 1802
Anolis viridis Wied, 1821 = *Anolis punctatus* Daudin, 1802
Iguana sapidissima Merrem = *Iguana iguana* Linnaeus, 1758
Polychrus marmoratus, Merrem = *Polychrus marmoratus* (Linnaeus, 1758)
Agama picta Wied, 1823 = *Enyalius pictus* (Schinz, 1822)
Agama catenata Wied, 1821 = *Enyalius catenatus* (Wied, 1821)
Stellio torquatus Wied, 1820 = *Tropidurus torquatus* (Wied, 1820)
Teius monitor, Merrem = *Tupinambis teguixin* (Linnaeus, 1758)
Teius ameiva, Merrem = *Ameiva ameiva* (Linnaeus, 1758)
Teius cyanomelas Wied, 1824 = *Cnemidophorus nativo* Rocha et al., 1997 (nomen protectum)
Lacerta striata Daudin = *Kentropyx calcarata* Spix, 1825 (nomen protectum)
Scincus sloanei Daudin = *Mabuya* sp.
Scincus striatus Daudin = *Mabuya* sp.
Gymnophthalmus quadrilineatus, Merrem = *Micrablepharus maximiliani* (Reinhardt and Lütken, 1862) (nomen protectum)
Boa constrictor Linnaeus = *Boa constrictor* Linnaeus, 1758
Boa cenchria Linnaeus = *Epicrates cenchria* (Linnaeus, 1758)
Boa aquatica Wied, 1823 = *Eunectes murinus* (Linnaeus, 1758)
Scytale coronata, Merrem = *Pseudoboa nigra* (Duméril and Bibron, 1854)
Coluber poecilostoma Wied, 1824 = *Pseustes sulphureus poecilostoma* (Wied, 1824) = *Spilotes sulphureus* (Wagler, 1824)
Coluber liocercus Wied, 1824 = *Leptophis ahaetulla liocercus* (Wied, 1824)
Coluber variabilis Kuhlii Wied, 1824 = *Spilotes pullatus* (Linnaeus)
Coluber nattereri Mikan = *Thamnodynastes pallidus strigilis* (Mikan, 1820)
Coluber bicarinatus Wied, 1820 = *Chironius bicarinatus* (Wied, 1820)
Coluber pyrrhopogon Wied, 1824 = *Chironius pyrrhopogon* (Wied, 1824)
Coluber laevicollis Wied, 1824 = *Chironius laevicollis* (Wied, 1824)
Coluber carinicaudus Wied, 1824 = *Helicops carinicaudus* (Wied, 1824)
Coluber lichtensteinii Wied, 1824 = *Mastigodryas bifossatus* (Raddi, 1820)
Coluber plumbeus Wied, 1820 = *Clelia clelia plumbea* (Wied, 1820)
Coluber chrysogaster Wied, 1824 = nomen dubium
Coluber testaceus Wied, 1824, non Say, 1823: 48 = uncertain, nomen dubium
Coluber acuminatus Wied, 1824 = *Oxybelis aeneus* (Wagler, 1824)
Coluber modestus Wied, 1824 = nomen dubium
Coluber undulatus Wied, 1824 = *Echinanthera undulata* (Wied, 1824)
Coluber merremii Wied, 1821 = *Liophis miliaris merremii* (Wied, 1821)*
Coluber collaris Wied, 1824 = uncertain (*Liophis miliaris merremii* Wied?)
Coluber marginatus Wied, 1824 = nomen dubium
Coluber dictyodes Wied, 1824 = *Liophis miliaris miliaris* (Linnaeus, 1758)
Coluber pileatus Wied, 1824 = *Philodryas olfersii olfersii* (Lichtenstein, 1823)
Coluber herbeus Wied, 1824 = *Philodryas olfersii herbeus* (Wied, 1824)
Coluber rabdocephalus Wied, 1824 = *Xenodon rabdocephalus* (Wied, 1824)
Coluber saurocephalus Wied, 1824 = *Xenodon serverus* (Linnaeus, 1758)
Coluber doliatus Wied, 1824 = *Liophis poecilogyrus* (Wied, 1824)

Coluber poecilogyrus Wied, 1824 = *Liophis poecilogyrus* (Wied, 1824)
Coluber erythrogaster Wied, 1824 = nomen dubium
Coluber formosus Wied, 1820 = *Oxyrhopus formosus* (Wied, 1820)
Coluber venustissimus Wied, 1820 = *Erythrolamprus aesculapii venustissimus* (Wied, 1821)
Dipsas cenchoa (Linnaeus) = *Imantodes cenchoa* (Linnaeus, 1758)
Elaps corallinus Wied, 1820 = *Micrurus corallinus* (Merrem, 1820)
Elaps marcgravii Wied, 1820 = *Micrurus ibiboboca* (Merrem, 1820)
Crotalus horridus, Daudin = *Crotalus durissus* ssp.
Lachesis rhombeata Wied, 1824 = *Lachesis muta rhombeata* Wied, 1824
Cophias jararaca Wied, 1824 = *Bothrops jararaca* (Wied, 1824)
Cophias bilineatus Wied, 1821 = *Bothrops bilineatus* (Wied, 1821)
Cophias holosericeus Wied, 1821 = nomen oblitum [possibly *Xenodon rabdocephalus* (Wied, 1824)?]
Typhlops leucogaster Wied, 1824 = nomen dubium
Amphisbaena punctata Wied, 1824 = *Leposternon microcephalum* Wagler, 1824
Amphisbaena flavescens Wied, 1824 = *Amphisbaena alba* Linnaeus, 1758
Caecilia lumbricoides Daudin = *Caecilia* incertae sedis
Hyla faber Wied, 1821 = *Hyla faber* Wied, 1821
Hyla punctata Wied, 1824 (non Schneider, 1799) = *Hyla infulata* Wied, 1824 (replacement name)
Hyla crepitans Wied, 1824 = *Hyla crepitans* Wied, 1824
Hyla elegans Wied, 1824 = *Hyla elegans* Wied, 1824
Hyla aurata Wied, 1821 = *Scinax auratus* (Wied, 1821)
Hyla luteola Wied, 1820 = *Phyllodytes luteolus* (Wied, 1820)
Rana pacybrachion Wied, 1824 = *Leptodactylus ocellatus* (Linnaeus, 1758) = *Leptodactylus latrans* (Steffen, 1815) fide Lavilla et al., 2010
Rana pachypus Spix = *Leptodactylus ocellatus* (Linnaeus 1758) = *Leptodactylus latrans* (Steffen, 1815) fide Lavilla et al., 2010
Rana macrocephala Wied, 1824 = *Ceratophrys aurita* (Raddi, 1823)
Rana sibilatrix Wied, 1824 = *Leptodactylus fuscus* (Schneider, 1799)?
Bufo agua Daudin = *Bufo ictericus* Spix, 1824 [*Rhinella icterica* in Frost, 2014][41]
Bufo bimaculatus Wied, 1820 = *Bufo ictericus* Spix, 1824 [*Rhinella icterica* in Frost, 2014]
Bufo fuliginosus Wied, 1824 = *Bufo ictericus* Spix, 1824 [*Rhinella icterica* in Frost, 2014]
Bufo crucifer Wied, 1821 = *Bufo crucifer* Wied, 1821 [*Rhinella crucifer* (Wied, 1821) in Frost, 2014]
Bufo ornatus Spix = *Bufo crucifer* Wied, 1821 [*Rhinella crucifer* in Frost, 2014]
Bufo cinctus Wied, 1824 = *Bufo crucifer* Wied, 1821 [*Rhinella crucifer* in Frost, 2014]
Ceratophrys varius Wied, 1824 = *Ceratophrys aurita* (Raddi, 1823) [Frost, 2014]
Ceratophrys dorsata Wied, 1824 = *Ceratophrys aurita* (Raddi, 1823) [Frost, 2014]
Ceratophrys boiei Wied, 1824 = *Proceratophrys boiei* (Wied, 1824) [Frost, 2014]

ACKNOWLEDGMENTS

We owe special thanks to senior scientific assistants Margaret G. Arnold and David A. Dickey. They are the ones most experienced with the AMNH herpetology collection and its computerized database and have assisted in this project from the beginning. Their work is furthered by Curatorial Associate David Kizirian, Scientific Assistant Lauren Vonnahme, and Curator-in-Charge Christopher J. Raxworthy.

Preparation of this paper was supported by Robert G. Goelet, former president and Chairman Emeritus of the Board of Trustees of the American Museum of Natural History. Peter Goldberg took the photographs of type specimens. Patricia J. Wynne assisted in photographic layouts and manipulation of electronic files.

We are grateful to the following colleagues who answered inquiries and provided data on a broad range of subjects: Thomas Baione

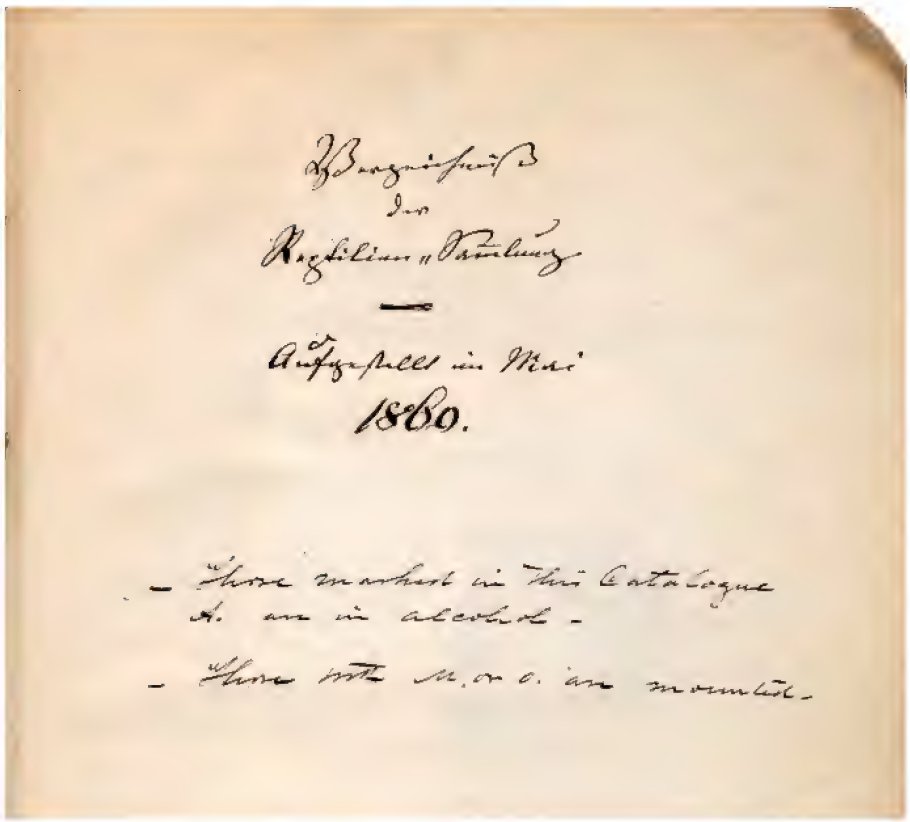
[41] References to the amphibian database (Frost, 2014) provide the most recent citations for these species and suggest a much longer period of nomenclatural inactivity than might be expected in these species.

(AMNH); Wolfgang Böhme (Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn); Marsha V. Gallagher (Joslyn Art Museum); Hans Jürgen Krüger (Fürstlich Wiedische Archiv, Neuwied); R. Ronald Heyer (USNM); Mary LeCroy (AMNH); the late Samuel B. McDowell (AMNH); Sven Mecke University of Marlbug, Germany; Mai Reitmeyer (AMNH); Hermann Josef Roth (Germany); Claudia Staehle (Brazilian Library of Robert Bosch, Stuttgart); Frank Steinheimer (Germany).

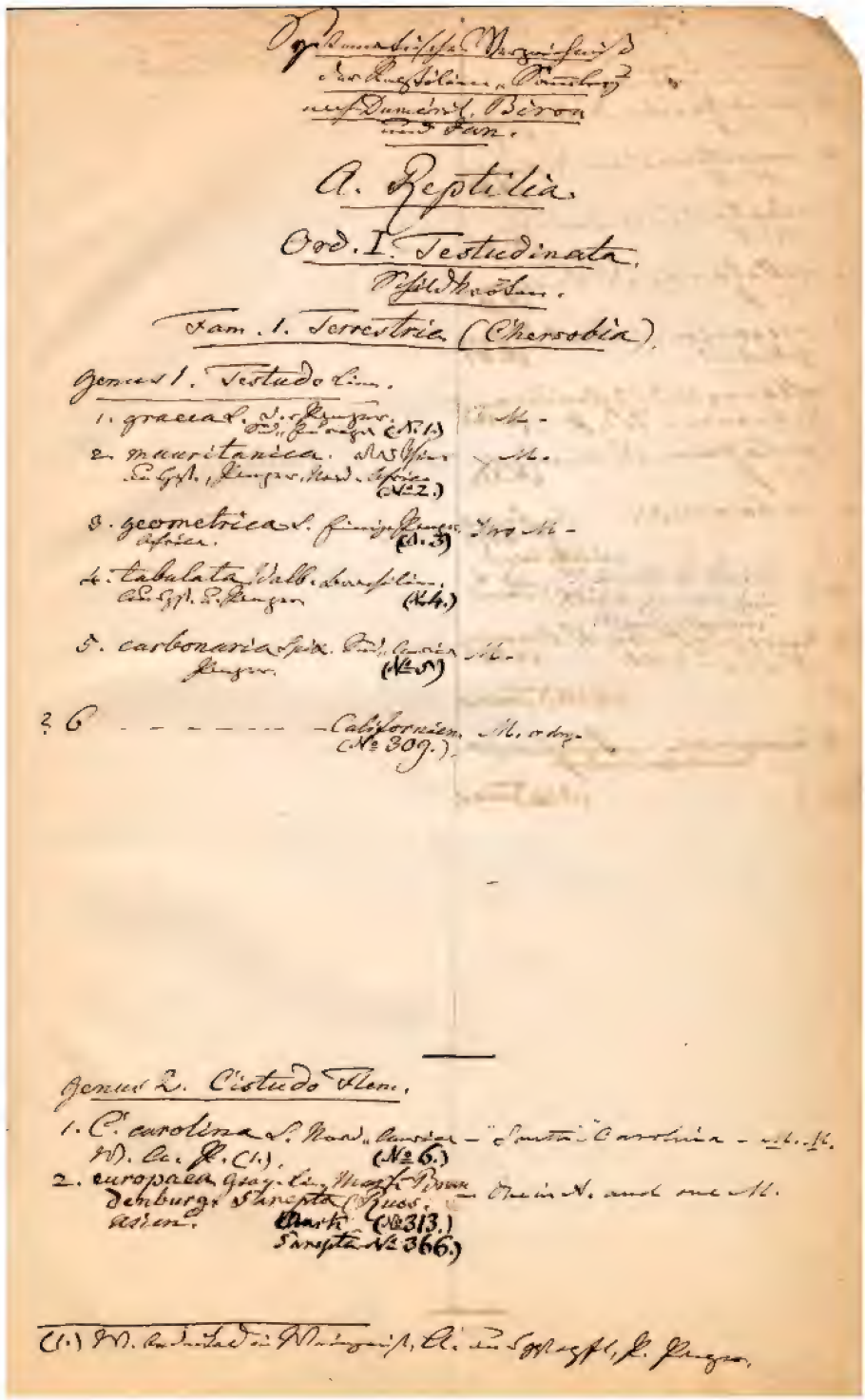
For reading the entire manuscript and for critical commentary, we are deeply grateful to Kraig Adler, John E. Cadle, and Grace M. Tilger.

APPENDIX 1

THE 1860 MANUSCRIPT CATALOG (*VERZEICHNISS DER REPTILIEN-SAMMLUNG NACH DUMÉRIL, BIBRON, UND JAN*).



A. 1860 title page, with indications for alcoholic or dry specimen.



A. Reptilia.

Ord. I. Testudinata.

Fam. 1. Terrestria (Chersobia).

Genus 1. Testudo Linn.

1. graeca L. (No. 1)

2. mauritanica. (No. 2.)

3. geometrica L. (No. 3)

4. tabulata Walb. (No. 4.)

5. carbonaria Spix. (No. 5)

? 6 – – – – – – (No 309.)

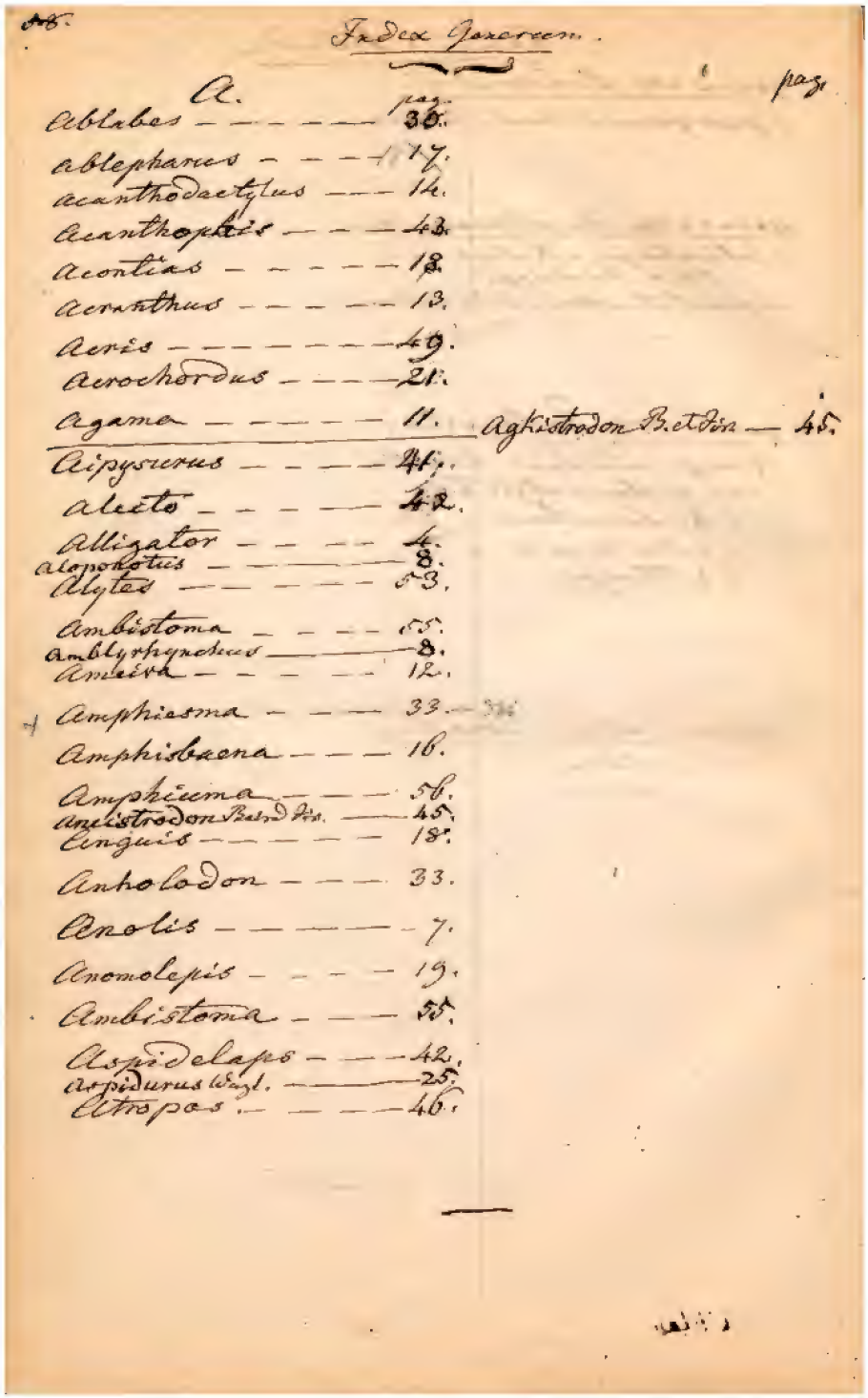
Genus 2. Cistudo Flem.

1. C. carolina L. (No. 6.)

2. europaea Gray. (No 313.) (No 366.)

(1.) M. Carolina, Mexico, Cal. Texas, Florida, S. Georgia.

B. First page of classification of AMNH collection, with first two genera.



C. Start of alphabetical list of genera in AMNH collection.

D. Start of list of numbered species in AMNH collection.

APPENDIX 2

Gazetteer of Wied's Herpetological Localities

The following list of geographical names and coordinates was compiled as a helpful locator for most, if not all, of the Brazilian herpetological localities mentioned by Prince Maximilian. The four-digit coordinates are to be read as 00 degrees 00 minutes, rounded to the nearest degree and minute. The principal source gazetteers are indicated by number as follows: (1) Bokermann, 1957; (2) U.S. Board on Geographic Names, 1963; (3) Vanzolini, 1992.

Localities are placed within present-day boundaries of the states Bahia (BA), Espirito Santo (ES), and Rio de Janeiro (RJ); a few border localities are indicated as RJ/ES. Maximilian used these names for the old colonial provinces and captaincies, the boundaries of which have been stable for present purposes. He also reached the border of Minas Gerais (MG), not represented among the following localities.

Agá, Fazenda, ES 2045, 4045 (1)
Alcobaça, Rio, BA 1732, 3912 (2)
Anjicos (Angicos), BA 1514, 410 1 (1)
Arara, Lagoa d', BA 1806, 3948 (3)
Arara, Morro d', BA 1806, 3948 (3)

Barganza (= Bragança), Rio, RJ 2202, 4105 (2)
Belmonte, Rio (= Jequitinhonha), BA 1551, 3853, (2)
Benevente, Rio (= Iritiba), ES 2047, 4039 (2)

Cabeça de Boi, BA 1350, 3955 (1)
Cabo Frio, RJ 2253, 4201 (2)
Cachoeira, Rio, BA 1448, 3901 (2)
Campos, RJ 2145, 4118 (2)
Campos Novos, Fazenda, RJ 2242, 4202 (1)
Catolé, Ribeirão 1522, 4006 (1)
Conquista (= Vitória da Conquista), BA 1451, 4051 (2)
Conquista, Arrayal da (see Conquista above)
Contas, Rio de, BA 1305, 4153 (2)

Doce, Rio, ES 1937, 3949 (1)

Espírito Santo (locality) (= Vitória), ES 2019, 4021 (2)
Espírito Santo, Rio (= Santa Maria = Vitória), ES 2018, 4017 (2)
Esterito d'Agua 1455, 3923 (3)

Gentio, Ponte do, Fazenda, BA 1730, 3925 (3)
Goaytacases (= Campos dos Goitacazes), RJ 2145, 4118 (2)
Gurapina (= Guarapina), RJ 2254, 4244 (3)

Inuá (= Inoã), RJ 2255, 4257 (2)
Ipibura, Fazenda, BA 1550, 3859 (3 [see under "Ibipura" auct.])
Iritiba, Rio (= Benevente), ES 2047, 4039 (2)
Issara, Ribeirão (= Jissara) (stream), BA 1506, 3940 (3)
Itabapoana, Rio, RJ/ES 2118, 4049 (2)
Itabuna, BA 1448, 3916 (2)
Itapemirim, Rio, ES 2150, 4049 (2)

Jiboya (= Jibóia), BA 1504, 4149 (3)
Jucu, Barra do or Rio, ES 2024, 4019 (2)

Mandinga, Fazenda, RJ 2134, 4104 (3)
Maricá, RJ 2255, 4249 (2)
Minhocas, Ribeirão, BA 1510, 4002 (1)
Morro d'Arara (see Arara, Lagoa d' and Morro d')
Mucuri, BA 1234, 3835 (2)
Mucuri, Rio, BA 1805, 3934 (2)
Muribeca, Fazenda, RJ/ES 2115, 4101 (3)

Ostras, Rio das (locality), RJ 2232, 4157 (2)

Parahyba and Paraïba in Wied (= Paraíba), Rio, RJ 2137, 4103 (2)
Pardo, Rio, BA 1539, 3857 (2)
Paulista, RJ 2213, 4127 (3)
Peruhype (= Peruípe), Rio, BA 1734, 3916 (2)
Piabanha, Córrego (stream), BA 1454, 3922 (3)
Piranga, Lagoa, ES 1915, 3940 (1)
Porcos, BA 1504, 4100 (3)

Regência, Quartel da (now city of Regência), ES 1936, 3949 (1)
Riacho, Quartel do (= Riacho, locality), ES 1945, 4003 (1)

Salto, Quartel do, BA 1600, 3957 (1)
Santa Agnés, Fazenda (= Santa Inês), BA 1317, 3948 (1)

Santa Maria, Rio (= Espírito Santo = Vitória), ES 2018, 4017 (2)
São Fidelis, RJ 2139, 4144 (2)
São João, Rio, RJ 2226, 4200 (2)
São João de Port'Allegre (= Mucuri), BA 1805, 3934 (2)
São Mateus, Rio, ES 1835, 3944 (2)
São Pedro d'Alcâtara (= Itabuna, BA 1448, 3916 (1, 2)
Saquarema, RJ 2255, 4233 (2)

Taípe, Rio (= Almada), 1446, 3923 (2)
Tamburil (Tamboril), Fazenda, BA 1458, 4125 (1)
Tapebuçu, Fazenda, RJ 2227, 4151 (1)
Taquara, Fazenda, BA 1440, 4030 (3)
Tiririca, Fazenda, RJ 2255, 4220 (1)

Vareda, Fazenda, BA 1511, 4123 (1)
Veado, Rancho do, BA 1447, 3919 (1)
Viçoza, Villa (= Nova Viçosa), BA 1
Vitória, Rio (= Espírito Santo = Santa Maria), ES 2018, 4017 (2)
Vitória da Conquista, BA 1451, 4051 (2)

Biographical Sources

There is an abundance of material, including: Amaral (1931); Bailey (1923); Berger (1980); Bokermann (1957); Bosch (1986–1991); Ewers et al. (1984); Ratzel (1886); Röder (1952, 1955); Röder and Trimborn (1954a, 1954b); Roth (1995a, 1995b, 1995c); Schach (1994, 1995); Thomas (1976); Wied, Karl Viktor Prinz zu (1952, 1954); Wirgen (1867).

Most used for the present summary were the above-cited works by Prince Karl Victor zu Wied (1952, 1954), corporate author Bosch (1988, 1991), Ewers et al. (1984), Röder and Trimborn (1954b), Roth (1995c), and Schach (1994, 1995). See also Roth (1995c) for many additional references. Internet sources included the Fuerstlich Wiedisches Archiv in Neuwied.

REFERENCES

Adler, Kraig. (editor). 1981. Johann Baptist von Spix and Johann George Wagler. Herpetology of Brazil, with an introduction by P.E. Vanzolini. [Athens Ohio]: Society for the Study of Amphibians and Reptiles, Facsimile Reprints in Herpetology.

Adler, Kraig. 1989. Herpetologists of the past. Contributions to Herpetology 5: 5–141. Ithaca NY: Society for the Study of Amphibians and Reptiles.

Adler, Kraig. (editor). 2012. Herpetologists of the past. Contributions to Herpetology 29: 1–564, Ithaca NY: Society for the Study of Amphibians and Reptiles.

Allen, JA. 1889. On the Maximilian types of South American birds in the American Museum of Natural History. Bulletin of the American Museum of Natural History 2 (19), 209–276.

Allen, JA. 1881. Further notes on Maximilian types of South American birds. Bulletin of the American Museum of Natural History 3 (13), 199–202.

Amaral, Afrânio do. 1931. Maximiliano, Principe de Wied. Ensaio Bio-bibliografico. Boletim do Museu Nacional Rio Janeiro 7 (3), 187–210.

Amaral, Afrânio do. 1955. Contribuição ao conhecimento dos ofídios neotrópicos. XXXVII. Sub-espécies de *Epicrates cenchria* (Lineu, 1758). Memorias do Instituto Butantan 26 (1954), 227–247.5.

Anglo-American cataloguing rules. 1998. Prepared under the direction of the Joint Steering Committee for Revision of AACR, a committee of the American Library Association, the Australian Committee on Cataloguing, the British Library, the Canadian Committee on Cataloguing, the Library Association, the Library of Congress. Chicago: American Library Association, 2nd ed., revised, xli, 676 pp.

Anonymous. 1893. Humboldt and Brazil. Science 22 (550): 91.

Avila-Pires, Fernando Dias de. 1965. The type specimens of Brazilian mammals collected by Prince Maximilian zu Wied. American Museum Novitates 2209: 1–21.

Bailey, Joseph R. 1940. Relationships and distributions of the snakes allied to the genus *Pseudoboa*. Ph.D. dissertation, University of Michigan, Ann Arbor, v + 239 pp.

Bailey, Joseph R. 1955. The snakes of the genus *Chironius* in southeastern South America. Occasional papers of the Museum of Zoology, University of Michigan 571: 1–21.

Bailey, Vernon. 1923. Maximilian's travels in the interior of North America, 1832 to 1834. Natural History 23 (4): 337–343.

Baldus, Herbert. 1958. Maximilian Prinz zu Wied in seiner Bedeutung für die Indianerforschung in Brasilien. Proceedings of the 32nd International Congress of Americanists, Copenhagen 1956: 97–104.

Berger, Paulo. 1980. Bibliografia do Rio de Janeiro de viajantes e autores estrangeiros

1531–1900. 2nd ed., revised. Rio de Janeiro: SEEC, [xiv], 478, [vi] pp.

Blackwelder, Richard E. 1967. Taxonomy: a text and reference book. New York: John Wiley & Sons, Inc., xiv + 698 pp.

Boettger, Oskar. 1885. Liste von Reptilien und Batrachiern aus Paraguay. Zeitschrift für Naturwissenschaften 58: 213–248.

Bogert, Charles M., and James A. Oliver. 1945. A preliminary analysis of the herpetofauna of Sonora. Bulletin of the American Museum of Natural History 83 (6): 297–426 + pls. 30–37.

Böhme, Wolfgang. 2004. Über die zoologische, speziell die herpetologische Sammlung des Prinzen Maximilian zu Wied-Neuwied und die Abschätzung ihres Verkaufswertes 1845 durch Georg August Goldfuss. Bonner Universitätsblätter 2004: 11–16.

Bokermann, Werner C.A. 1957. Atualização do itinerário da viagem do Principe de Wied ao Brasil (1815–1817). Arquivos de Zoologia (São Paulo) 10 (3), 209–251.

Bokermann, Werner C.A. 1965. Nota sobre los anfíbios brasileños citados y descriptos por Raddi. Neotropica 11 (34): 9–12.

Bokermann, Werner C.A. 1966a. Lista anotata das localidades tipo de anfíbios brasileiros, São Paulo: Serviço de Documentação, 183 pp.

Bokermann, Werner C.A. 1966b. O gênero *Phyllodytes* Wagler. Anais da Academia Brasileria da Ciencias 38 (2) 335–344.

Bokermann, Werner C.A. 1969. Notas sôbre "*Hyla aurata*" Wied, 1824 (Anura, Hylidae). Revista Brasileira de Biologia 29 (2), 159–162.

Bosch, Robert, GmbH [corporate author]. 1986. Brasilien-Bibliothek der Robert Bosch GmbH. Katalog. **Vol. 1:** Abgeschlossen zum Jahresende 1983 (chronological bibliography, edited by S. Koppel) Stuttgart: Deutsch Verlags-Anstalt, xxi, 516 pp.

Bosch, Robert, GmbH [corporate author]. 1988. Brasilien-Bibliothek der Robert Bosch GmbH. Katalog. **Vol. 2:** Nachlass des Prinzen Maximilian zu Wied, **Part 1:** Illustrationen zur Reise 1815 bis 1817 in Brasilien (edited by R. Löschner and B. Kirschstein-Kamber) Stuttgart: Deutsch Verlags-Anstalt: 217 pp.

Bosch, Robert, GmbH [corporate author]. 1991. Brasilien-Bibliothek der Robert Bosch GmbH. Katalog. **Vol. 2:** Nachlass des Prinzen Maximilian zu Wied, **Part 2:** Briefwechsel und Zeichnungen zu den naturhistorischenWerken (edited by B. Kirschstein-Kamber, S. Koppel, and R. Löschner) Stuttgart: Deutsch Verlags-Anstalt: 366 pp.

Boulenger, George Albert. 1882. Catalogue of the Batrachia Gradientia s. Caudata and Batrachia Apoda in the collection of the British Museum. London: British Museum, vi, 127 pp. + 9 pls.

Boulenger, George Albert. 1885. Catalogue of the lizards in the British Museum (Natural History). 2nd ed. London: Trustees of the British Museum. Vol. 2, xiii, 497 pp. + 24 pls.

Boulenger, George Albert. 1894. Catalogue of the snakes in the British Museum (Natural History). London: British Museum (Natural History). Vol. 2, xi, 382 pp. + 20 pls.

Boulenger, George Albert. 1896. Catalogue of the snakes in the British Museum (Natural History). London: British Museum (Natural History), Vol. 3, xiv, 727 pp. + 25 pls. [includes an index covering all 3 vols.].

Bour, Roger, and Alain Dubois. 1983. Nomenclatural availability of *Testudo coriacea* Vandelli, 1761: a case against a rigid application of the rules to old, well-known zoological works. Journal of Herpetology 17 (4): 356–361.

British Museum. 1915. Catalogue of the books, manuscripts, maps and drawings in the British Museum (Natural History). London: British Museum, vol. 5 (SO-Z): 1957–2403.

Burmeister, Hermann. 1856. Erläuterung zur Fauna brasiliens, enthaltend Abbildungen und ausführliche Beschreibungen neurer oder ungenügend bekannter Thier-Arten. Berlin: Georg Reimer, viii, 115 pp. + 32 pls. [part colored].

Burt, Charles E., and May Danheim Burt. 1931. South American lizards in the collection of the American Museum of Natural History. Bulletin of the American Museum of Natural History 61 (7): 227–395.

Caramaschi, Ulisses, and Jorge Jim. 1982. Revalidação de *Hyla elegans* Wied, 1824 (Amphibia, Anura). Ciência e Cultura (Sociedade Brasileira para o Progresso da Ciência) 7 (Resumos Reunião Anual, G.1.11 Zoologia): 848. [abstract].

Cochran, Doris M. 1955. Frogs of southeastern Brazil. United States National Museum Bulletin 206: frontisp., xvi, 409 pp. + 34 pls.

Cope, Edward Drinker. 1863a. On *Trachycephalus*, *Scahiopus* and other American Batrachia. Proceedings of the Academy of Natural Sciences of Philadelphia 15: 43–54.

Cope, Edward Drinker. 1863b. Descriptions of new American Squamata, in the Museum of the Smithsonian Institution, Washington. Proceedings of the Academy of Natural Sciences of Philadelphia 5: 100–106.

Daudin, François Marie. 1801–1803. Histoire naturelle des rainettes, des grenouilles et des crapauds. Paris: F. Dufart, 8 vols. Vol. 1 (1801); vol. 2 (1801); vol. 3 (1802); vol. 4 (1802); vol. 5 (1803); vol. 6 (1803); vol. 7 (1803); vol. 8 (1803).

Dirksen, Lutz, and Wolfgang Böhme. 1998. Studien an Anakondas 1: Indizien für natürliche Bastardierung zwischen der Großen Anakonda (*Eunectes murinus*) und der Paraguay-Anakonda (*Eunectes notaeus*) in Bolivien, mit Anmerkungen zur Taxonomie der Gattung *Eunectes* (Reptilia: Squamata: Serpentes: Boidae). Zoologische Abhandungen Staatliches Museum für Tierkunde Dresden 50 (4), 45–58.

Dixon, James R. 1983. Taxonomic status of the South American snakes *Liophis miliaris*, *L. amazonicus*, *L. chrysostomus*, *L. mossoroensis* and *L. purpurans* (Colubridae: Serpentes). Copeia 1983 (3): 791–802.

Dixon, James R. 1989. A key and checklist to the Neotropical snake genus *Liophis* with country lists and maps. Smithsonian Herpetological Information Service 79: 28 pp. + 12 maps.

Dixon, James R., and Allan L. Markezich. 1992. Taxonomy and geographic variation of *Liophis poecilogyrus* (Wied) from South America (Serpentes: Colubridae). Texas Journal of Science 44 (2): 131–166.

Dixon, James R. Dixon, and Van Wallach. 1994. Case 2875. *Coluber poecilogyrus* Wied-Neuwied, [1824] (currently *Liophis poecilogyrus* (Reptilia. Serpentes): proposed conservation of the specific name. Bulletin of Zoological Nomenclature 51 (3): 250–252.

Dixon, James R., John A. Wiest, Jr., and José M Cei. 1993. Revision of the Neotropical snake genus *Chironius* Fitzinger (Serpentes, Colubridae). Museo Regionale di Scienze Naturali (Torino) Monografie 13: 279 pp.

Duellman, William E. 1974. A reassessment of the taxonomic status of some Neotropical hylid frogs. Occasional Papers of the Museum of Natural History, University of Kansas 27: 1–27.

Duellman, William E. 1977. Liste der rezenten Amphibien und Reptilien: Hylidae, Centrolenidae, Pseudidae. Das Tierreich 95: xix, 1–225.

Duellman, William E., and John J. Wiens. 1992. The status of the hylid frog genus *Ololygon* and the recognition of *Scinax* Wagler, 1830. Occasional Papers of the Museum of Natural History, University of Kansas 151: 1–23.

Duméril, A.M.C., and G. Bibron. 1834–1854. Erpétologie générale ou histoire naturelle complète des reptiles. Paris: Librairie Encyclopédique de Roret, 9 vols., atlas. [this is the Duméril and Bibron work, abbreviated "D.B.," frequently referenced in Wied's 1860 manuscript catalog; a third author, A. Duméril, collaborated in vols. 7 and 9]

Duméril, A.M.C., and G. Bibron. 1837. Genre. Oplure. *Oplurus*. Cuvier (*Tropidurus* de Wiegmann, de Fitzinger, de Gray en partie.) *In* Erpétologie générale ou histoire naturelle compléte des reptiles. Paris: vol. 4: 359–368. [Note: description of a new species honoring Prince Maximilian zu Wied. "Synonymy" = *Oplurus Maximiliani* Nobis; *Uromastix cyclurus* Wied; Quetz-Paleo Séb, *Oplurus Sebæ*; *Tropidurus torquatus* Schinz.]

Ehrenreich, P. 1887. Ueber die Botocudos der brasilianischen Provinzen Espiritu Santo und Minas Geraes. Zeitschrift für Ethnologie 19: 1–46 + pls. 1–2.

Etheridge, Richard. 1969. A review of the iguanid lizard genus *Enyalius*. Bulletin of the British Museum (Natural History), Zoology 18 (8): 231–260.

Etheridge, Richard. 1970. *Enyalius*. *In* J.A. Peters and R. Donoso-Barros, Catalogue of the Neotropical Squamata. Part II. Lizards and amphisbaenians. United States National Museum Bulletin 297: 117–118.

Ewers, John C., Marsha V. Gallagher, David C. Hunt, and Joseph C. Porter. 1984. Views of a vanishing frontier. Lincoln: Center for Western Studies/Joslyn Art Museum, 103 pp., 69 figs. [illustrations by Karl Bodmer]

Finsch, O. [Friedrich Hermann Otto], and G. [Carl Johann Gustav] Hartlaub. 1870. Die Vögel Ost-Afrikas. Baron Carl Claus von Decken's Reisen in Ost-Afrika, vol. 4: frontisp., x + 897 pp. + 10 pls. Leipzig, Heidelberg: C.F. Winter.

Frost, Darrel R. 2014. Amphibian species of the world: an online reference. V6.0 Internet resource (http://research.amnh.org/herpetology/amphibia/index.html), accessed November 2014.

Frost, Darrel R., et al. (+18 coauthors). 2006. The amphibian tree of life. Bulletin of the American Museum of Natural History 297: 1–370 pp. + detached foldout cladogram.

Gans, Carl. 1962. Notes on amphisbaenids (Amphisbaenia, Reptilia). 5. A redefinition and a bibliography of *Amphisbaena alba* Linné. American Museum Novitates 2105: 1–31.

Gans, Carl. 1964. A redescription of, and geographic variation in, *Liophis miliaris* Linné, the common water snake of southeastern South America. American Museum Novitates 2178: 1–58.

Gans, Carl. 1967. A check list of recent amphisbaenians (Amphisbaenia, Reptilia). Bulletin of the American Museum of Natural History 135 (2): 61–105.

Gans, Carl. 1971. Studies on amphisbaenians (Amphisbaenia, Reptilia). 4. A review of the amphisbaenid genus *Leposternon*. Bulletin of the American Museum of Natural History 144 (6): 379–464.

Günther, Albert. 1858. Catalogue of the Batrachia Salientia in the collection of the British Museum. London: British Museum, xiv, 1–160

+ pls. 1–12.

Hermann, Johannis. 1804. Observationes zoologicae. Quibus novae complures, aliaeque animalium species describuntur et illustrantur, opus posthumum edidit Fridericus Ludovicus Hammer. Argentoratum [Strasbourg]: Amandum Koenig, frontisp., viii, 332 pp.

Heyer, W. Ronald. 1978. Systematics of the *fuscus* group of the frog genus *Leptodactylus* (Amphibia, Leptodactylidae). Natural History Museum of Los Angeles County Science Bulletin 29: [iii], 1–85.

Hoge, Alphonse Richard, and Abdem Ramón Lancini V. 1960. Notas sobre la pubicación de la terra typica de varias especies de "serpentes" colectadas por M. Bauperthuis en la "Côte Ferme" y en la "Province de Venezuela." Boletín del Museo de Ciencias Naturales (Caracas) 6 and 7 (1–4): 58–62.

Hoogmoed, Marinus S. 1973. Notes on the herpetofauna of Surinam IV. The lizards and amphisbaenians of Surinam. [Biogeographica 4]. The Hague: W. Junk, ix, 419 pp.

Hoogmoed, Marinus S., and Ulrich Gruber. 1983. Spix and Wagler type specimens of reptiles and amphibians in the natural history musea in Munich (Germany) and Leiden (the Netherlands). Spixiana (suppl.) 9: 319–415.

ICZN. 1967. Opinion 804. *Coluber doliatus* Linnaeus, 1766 (Reptilia): suppressed under the plenary powers. Bulletin of Zoological Nomenclature 24 (1): 18–19.

ICZN. 1981. Opinion 1165. *Scytale niger* Daudin, 1803 (Reptilia, Serpentes): suppressed. Bulletin of Zoological Nomenclature 38 (1): 61.

ICZN. 1994. Opinion 1832. *Coluber poecilogyrus* Wied-Neuwied, [1824] (currently *Liophis poecilogyrus*) (Reptilia, Serpentes): specific name conserved. Bulletin of Zoological Nomenclature 53 (1): 72–73.

ICZN. 1999. International code of zoological nomenclature, 4th ed. London: International Trust Zoological Nomenclature, xxxix + 306 pp.

Jackson, JF. 1978. Differentiation in the genera *Enyalius* and *Strobilurus* (Iguanidae): implications for Pleistocene climatic changes in eastern Brazil. Arquivos de Zoologia (São Paulo) 30 (1): 1–79.

Jadin, Robert C., et al. 2014. Finding arboreal snakes in an evolutionary tree: phylogenetic placement and systematic revision of the Neotropical birdsnakes. Journal of Zoological Systematics and Evolutionary Research 52 (3): 257–264.

Kissinger, Henry A. 1957. A world restored: Metterich, Castlereagh and the problems of peace. Boston: Houghton Mifflin. [Ph.D. dissertation].

Kluge, Arnold G. 1979. The gladiator frogs of Middle America and Colombia—a reevaluation of their systematics (Anura: Hylidae). Occasional Papers of the Museum of Zoology, University of Michigan 688: 1–24.

Laurenti, J.N., 1768 Specimen medicum, exhibens synopsin reptilium emendatam cum experimentis circa venena et antidota reptilium austriacorum. Vienna: J. T. Nobilis de Trattnern. For pagination and issues see appendix 2.

Lavilla, Esteban O., Jose A Langone, Ulisses Caramaschi, W. Ronald Heyer, and Rafael O. De Sá 2010. The identification of *Rana ocellata* Linnaeus, 1758. Nomenclatural impact on the species currently known as *Leptodactylus ocellatus* (Leptodactylidae) and *Osteopilus brunneus* (Gosse, 1851) (Hylidae). Zootaxa 2346: 1–16.

Le, Minh, Christopher J. Raxworthy, William P, McCord, and Lisa Mertz. 2006. A molecular phylogeny of tortoises (Testudines: Testudinidae) based on mitochondrial and nuclear genes. Molecular Phylogenetics and Evolution 450 (2): 517–531.

Lichtenstein, Hinrich. 1823. Verzeichniss der Doubletten des zoologischen Museums der Königl. Universität zu Berlin nebst Beschreibung vieler bisher unbekannter Arten von Säugethieren, Vögeln, Amphibien und Fischen. Berlin: T. Trautwein, x, 118 pp. + 1 pl.

Linnaeus, C. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. 10th ed., tomus 1. Holmiae [Stockholm]: Laurentii Salvii.

Lutz, Bertha. 1973. Brazilian species of *Hyla*. Austin: University of Texas Press, xxii, 265 pp. + 7 color pls.

Machado, O. 1944. Observaçoes sobre ofídios do Brasil. Boletim da Instituto Vital Brazil 27: 61–64.

Markezich, Allan L. 1976. A reassessment of variation in, and a redescription of, the South American snake, *Leimadophis poecilogyrus* (Wied). M.S. thesis, University of Illinois, Chicago, 129 pp.

Marques, Otavio Augusto Vuolo, and Giuseppe Puorto. 1991. Padrões cromáticos, distribuição e possível mimetismo em *Erythrolamprus aesculapii* (Serpentes, Colubridae). Memorias do Instituto Butantan 53 (1): 127–134.

Merrem, Blasius. [1790]-1821. Beitraege zur Naturgeschichte. 3 vols. Duisburg and Lemgo: **Vol. 1** [1790], [viii], 47 pp. + 12 colored pls. **Vol. 2** [1790], 47 pp. + 12 pls. Essen: G.D.Baedeker (1821). **Vol.** 3 (1821), ii, 141, [ii] pp. + 13 pls. [pls. 1–12 colored + 1 unnumbered uncolored drawing. Note: vol. 3 rendered "Beitraege..."; each vol. with 2nd title page "Beytraege [or Beitraege]

zur Geschichte der Amphibibien." Vol 2 is rare fide Vanzolini (1977, 1: 9), not seen.

Merrem, Blasius. 1820. Versuch eines Systems der Amphibien (Tentamen systematis amphibiorum). Marburg: J.C. Krieger, xv, 191 pp. + 1 pl. [identically numbered facing pages, German and Latin texts].

Merrem, Blasius. 1829. Beitraege zur Geschichte der Amphibibien. Zweites Heft. Zweite Auflage. Essen: G.D. Baedeker, 47, [1] pp. + 13 pls. [pls. 1–12 colored, pl. no. 13 line drawings.

Moraes, Rubens Borba de. 1983. Bibliographia Brasiliana. Rare books about Brazil published from 1504 to 1900 and works by Brazilian authors of the Colonial period. Los Angeles: UCLA Latin American Center Publications, 1074 pp. in 2 vols.

Müller, Lorenz. 1927. Amphibien und Reptilien der Ausbeute Prof. Bresslau's in Brasilien 1913–14. Abhandlungen der Senckenbergischen Naturforschenden Gesellschaft 40 (3): 261–304.

Myers, Charles W. 2000. A history of herpetology at the American Museum of Natural History. Bulletin of the American Museum of Natural History 252: 1–232.

Myers, Charles W. 2011. A new genus and new tribe for *Enicognathus melanauchen* Jan, 1863, a neglected South American snake (Colubridae: Xenodontinae), with taxonomic notes on some Dipsadinae. American Museum Novitates 3715: 1–33.

Myers, Charles W., and John E. Cadle. 1994. A new genus for South American snakes related to *Rhadinaea obtusa* Cope (Colubridae) and resurrection of *Taeniophallus* Cope for the "*Rhadinaea*" *brevirostris* group. American Museum Novitates 3102: 1–33.

Myers, Charles W., and Samuel B. McDowell. 2014. New taxa and cryptic species of Neotropical snakes (xenodontinae), with commentary on hemipenes as generic and specific characters. Bulletin of the American Museum of Natural History 385: 1–112.

Myers, Charles W., and Richard B. Stothers. 2006. The myth of Hylas revisited: the frog name *Hyla* and other commentary on Specimen medicum (1768) J. N. Laurenti, the "father of herpetology." Archives of Natural History 33 (2), 241–266.

Myers, Charles W., Miguel Trefaut Rodrigues, and Paulo E. Vanzolini. 2011. Status of early 19th-century names authored in parallel by Wied and Schinz for South American reptiles and amphibians, with designations of three nomina protecta. American Museum Novitates 3714: 1–21.

Oliver, James A. 1948. The relationships and zoogeography of the genus *Thalerophis* Oliver. Bulletin of the American Museum of Natural History 92 (4): 157–280 + pls. 16–19.

Passos, Paulo, and Ronaldo Fernandes. 2008. Revision of the *Epicrates cenchria* complex (Serpentes: Boidae). Herpetological Monographs 22: 1–30.

Peters, James A., and Braulio Orejas-Miranda. 1970. Catalogue of the Neotropical Squamata: Part I. Snakes. United States National Museum Bulletin 297: vii, 1–347.

Peters, James A., and Roberto Donoso-Barros. 1970. Catalogue of the Neotropical Squamata: part II. Lizards and amphisbaenians. United States National Museum Bulletin 297: viii, 1–293.

Porter, Joseph C. 1984. Maximilian, Prince of Wied. A biographical sketch. *In* John C. Ewers et al., Views of a vanishing frontier: 9–20. Omaha: Center for Western Studies/Joslyn Art Museum.

Pritchard, Peter C.H., and Pedro Trebbau. 1984. The turtles of Venezuela. Society for the Study of Amphibians and Reptiles, Contributions to Herpetology, Number 2: vii, 403 pp. + 47 pls., 16 maps.

Reinhardt, J., and Ch. Lütken. "1861" [1862]. Bidrag til Kundskab om Brasiliens Padder og Krybdyr. Videnskabelige Meddelelser fra den naturhistoriske Forening i Kjöbenhavn [Ser. 2, Vol. 3], year 1861 (Nr. 10–15): 143–242 + pls. 3–6. (*Gymnophthalmus maximiliani* is described on pp. 211–214, pl. 5.) [This paper is variously cited as published either in "1861," as dated on the individual parts of "Aaret 1861" (= vol. 3) or "1862" (as dated at the bottom of the volume title page). The 1862 date seems correct. Reinhardt and Lütken's paper was presented (*Meddeelt i Mödet* [imparted with courage]) on December 4, 1861; the next article in vol. 3 was presented in 1862 (June 20, 1862, as confirmed in vol. 4 for year 1862, p. 337).].

Rivera, Paula C., Valeria Di Cola, Juan J. Martínez, Cristina N. Gardenal, and Margarita Chiaraviglio. 2011. Species delimitation in the continental forms of the genus *Epicrates* (Serpentes, Boidae) integrating phylogenetics and environmental niche models. PloS One 6 (9): e22199. [doi: 10.1371/journal.pone.0022199].

Rocha, Carlos Frederico D., Helena Godoy Bergallo, and Denise Peccinini-Seale. 1997. Evidence of an unisexual population of the Brazilian whiptail lizard genus *Cnemidophorus* (Teiidae), with description of a new species. Herpetologica 53 (3): 374–382.

Röder, Joseph. 1952. Der Wissenschaftliche Nachlass von Maximilian, Prinz zu Wied. Proceedings of the 30th International Congress of Americanists, held at Cambridge, pp. 187–192.

Röder, Joseph. 1955. The prince and the painter. Natural History 64 (6), 326–329.

Röder, Joseph, and Hermann Trimborn (editors). 1954a. Maximilian Prinz zu Wie. Unveröffentliche Bilder und Handschriften zur Völkerkunde Brasiliens. Unter Mitarbeit von Josefine Huppertz, Udo Oberem und Karl Viktor Prinz zu Wied. Bonn: Ferd. Dümmler, 150 pp. illus. + portfolio. [42 col. pls.]

Röder, Joseph, and Hermann Trimborn (editors). 1954b. Maximilian Prince of Wied. Unpublished pictures and manuscripts on the ethnology of Brazil. With the assistance of Josefine Huppertz, Udo Oberem, and Karl Viktor Prince of Wied. (English translation of Röder and Trimborn 1954a, typescript dated 18 Oct. 1985.)

Rodrigues, Miguel Trefaut, Marco Antonio de Freitas, Thais Figueiredo Santos Silva, and Carolina Ele. 2006. A new species of lizard genus *Enyalius* (Squamata, Leiosauridae) from the highlands of Chapada Diamantina, State of Bahia, Brazil, with a key to species. Phyllomedusa 5 (1): 11–24.

Rodrigues, Miguel Trefaut, Carolina Elena Viña Bertolotto, Renata Cecília Amaro, Yatiyo Yonenaga-Yas. 2014. Molecular phylogeny, species limits, and biogeography of the Brazilian endemic lizard genus *Enyalius* (Squamata: Leiosauridae): an example of the historical relationship between Atlantic Forests and Amazonia. Molecular Phylogenetics and Evolution 81: 137–146, [doi: 10.1016/j.ympev.2014.07.019].

Roth, Hermann Josef (editor). 1995a. Maximilian Prinz zu Wied, Jäger, Reisender, Naturforscher. Fauna und Flora in Rheinland-Pfalz, Beiheft 17. Landau: Gesellschaft für Naturschutz und Ornithologie Rheinland-Pfalz, 356 pp.

Roth, Hermann Josef. 1995b. Maximilian Prinz zu Wied—Leben und Wirken. Biographische Streiflichter. *In* HJ. Roth (editor), Maximilian Prinz zu Wied, Jäger, Reisender, Naturforscher. Fauna und Flora in Rheinland-Pfalz, Beiheft 17: 13–26.

Roth, Hermann Josef. 1995c. Vorarbeiten zu einer Bibliographie zu Maximilian Prinz zu Wied. *In* HJ. Roth (editor), Maximilian Prinz zu Wied, Jäger, Reisender, Naturforscher. Fauna und Flora in Rheinland-Pfalz, Beiheft 17: 325–344.

Roze, Janis A. 1966. On the synonymy and type specimens of the coral snakes *Micrurus corallinus* and *Micrurus ibiboboca* (*marcgravii*). Copeia 1966 (2): 369–371.

Ruibal, Rudolfo. 1950. The status of the lizard *Pantodactylus nicefori.* Copeia 1950 (1), 58 pp.

Say, Thomas. 1823. *Coluber testaceus*, n. sp. *In* S.H. Long, 1823: 48.

Schach, Paul. 1994. Maximilian, Prince of Wied (1782–1867) reconsidered. Great Plains Quarterly 14 (1), 5–20.

Schach, Paul. 1995. Maximilian, Prince of Wied, encounters "Landsleute" in the New World. *In* HJ. Roth (editor), Maximilian Prinz zu Wied, Jäger, Reisender, Naturforscher. Fauna und Flora in Rheinland-Pfalz, Beiheft 17: 155–170.

Schinz, H[einrich] R[udolf]. 1822. Das Thierreich eingetheilt nach dem Bau der Thiere als Grundlage ihrer Naturgeschichte und der vergleichenden Anatomie von dem Herrn Rittevon Cuvier... aus dem Französischen frey [frei] übersetzt und mit vielen Zusätzen versehen von H.R. Schinz. Vol. 2, Reptilien, Fische, Weichthiere, Ringelwürmer. Stuttgart and Tübingen: J.G. Cotta'schen Buchhandlung, [i]–xvi, [1]–835 pp. [reptiles and amphibians on pp. 1–189].

Schinz, H[einrich] R[udolf]. 1833–1835. Naturgeschichte und Abbildungen der Reptilien. Nach den neuesten Systemen zum gemeinnützigen Gebrauche entworfen und mit Berücksichtigung für den Unterricht der Jugend bearbeitet von H.R. Schinz nach der Natur und den vorzüglichsten Originalien gezeichnet von K.J. Brodtmann. Schaffhausen: Brodtmann and Leipzig: Wiedmann, 240 + i–iv pp., + 102 color pls. ["Originally issued in 17 parts." Original part covers not seen. This citation is prepared from an AMNH copy printed in Leipzig and compared with a Museum of Comparative Zoology copy printed in Schaffhausen. The texts seem to come off the same or identical printing plates, but the MCZ copy has two title pages that were printed in typefaces that differ from one another and differ also from type face on the AMNH title page. The subtitle material differs slightly in content among all three title pages.]

Schlegel, Hermann. 1837. Essai sur la physionomie des serpens. La Haye: J. Kips, J. Hz. et W.P. Van Stockum (text). [Vol. 1] Partie générale, xxviii, 251 pp. [Vol. 2] Partie descriptive, 606 + xvi. Amsterdam: M.H. Schonekat. [with folio atlas: planches, cartes et tableaux, 21 pls, 3 maps, 2 tables]

Schmidt, Karl P. 1953. A check list of North American amphibians and reptiles. 6th ed. Chicago: American Society of Ichthyologists and Herpetologists, viii, 280 pp.

Schneider, Johann Gottlob. 1799. Historiae amphibiorum naturalis et literariae fasiculus primus, continens ranas, calamitas, bufones et hydros in genera et species descriptos notisque fuis distinctos. Jena: Fromman, [v], 264, [ii] pp.

Schneider, Johann Gottlob. 1801. Historiae amphibiorum naturalis et literariae. Fasciculus secundus continens crocodilos, scincos, chamaesauras, boas, pseudoboas, elapes, angues, amphisbaenas et caecilias. Jena: Frommann, 374 pp.

Seba, Albertus. 1734–1765. Locupletissimi rerum naturalium thesauri accurata descriptio, et iconibus artificiosissimis expressio, per universam physices historiam. Amsterdam: Janssonio-Waesbergios [etc.], Vol. 1, 1734; Vol. 2, 1735.

Smith, Hobart M., and Rozella B. Smith. 1973. Synopsis of the herpetofauna of Mexico. Vol. 2. Analysis of the literature exclusive of the Mexican axolotl. Augusta, WV: Eric Lundberg, xxxiii, 367 pp.

Spix, Johann Baptist von. 1824a. Animalia nova sive species novae testudinum et ranarum, quas in itinere per Brasiliam annis MDCCCXVII–MDCCCXX jussu et auspiciis Maximiliani Joseph I. Bavariae Regis suscepto collegit et descripsit Dr. J.B. de Spix. Munich: F.S. Hübschmann, [iii], 53 pp. + 39 colored pls. [turtles tab. I–XVII + frogs tab. I–XXII; reprinted in facsimile but with uncolored plates in Adler, 1981]

Spix, Johann Baptist von. 1824b. Animalia nova sive species novae ranarum, quas in itinere per Brasiliam annis MDCCCXVII–MDCCCXX jussu et auspicii Maximiliani Joseph I. Bavariae regis suscepto collegit et descripsit Dr. J.B. de Spix. Munich: F.S. Hübschmann, 29 pp. + 22 colored pls. [separate printing of frog section of 1824a above, with identical plates, hand colored in AMNH copy]

Spix, Johann Baptist von. 1825 [original ed.]. Animalia nova sive species novae lacertum quas in itinere per Brasiliam annis MDCCCXVII–MDCCCXX jussu et auspiciis Maximiliani Joseph I. Bavariae regis suscepto collegit et descripsit Dr. J.B. de Spix. Leipzig: Munich: F.S. Hübschmann, 26 pp. + 30 colored pls. [reprinted in facsimile but with uncolored plates in Adler, 1981]

Stimson, Andrew F. 1974. *Pseudoboa nigra* (Duméril, Bibron and Dumeril 1854) (Reptilia: Serpentes): proposed validation under the plenary powers. Z.N.(S.) 2077. Bulletin of Zoological Nomenclature 31 (4), 247–248.

Stuart, Laurence C. 1941. Studies of Neotropical Colubrinae VIII. A revision of the genus *Dryadophis* Stuart, 1939. Miscellaneous Publications, Museum of Zoology, University of Michigan, 49: 106 pp. + 4 pls.

Taylor, Edward Harrison. 1936 ("1935"). A taxonomic study of the cosmopolitan scincoid lizards of the genus *Eumeces* with an account of the distribution and relationships of its species. University of Kansas Science Bulletin 23 (1): 1–643.

Taylor, Edward Harrison. 1968. The caecilians of the world. Lawrence: University of Kansas Press, [xiv], 848 pp.

Thomas, Phillip Drennon. 1976. Wied, Maximilian zu. *In* Charles Coulston Gillispie (editor), Dictionary of scientific biography, 14: 328–329. New York: Scribner.

Thomas, Robert Allen. 1976. A revision of the South American colubrid snake genus *Philodryas* Wagler, 1830. Ph.D. dissertation, Texas A&M University, xiv, 324 pp. [Dissertation Abstracts International B, 37 (8): 3815-B, 1977].

Uetz, Peter, and Jirí Hošek (editors). 2015. The reptile database. (http://www.reptile-database.org), accessed March 2015.

United States Board on Geographic Names. 1963. Gazetteer no. 71. Brazil. Washington, DC: Office of Geography, Department of the Interior, [vi], 915 pp. cessed.

Vanzolini, Paulo E. 1977. An annotated bibliography of the land and fresh-water reptiles of South America (1758–1975). São Paulo: Museu de Zoologia da Universidade de São Paulo, 2 vols. [vol. 1 (1758–1900), 186 pp.; vol. 2 (1901–1975), 316 pp., including index to both vols.].

Vanzolini, Paulo E. 1981. The scientific and political contexts of the Bavarian Expedition to Brazil. *In* Adler, K. (editor). 1981. Johann Baptist von Spix and Johann George Wagler. Herpetology of Brazil, with an introduction by P.E. Vanzolini. [Athens, Ohio]: Society for the Study of Amphibians and Reptiles, Facsimile Reprints in Herpetology, pp.ix–xxix.

Vanzolini, Paulo E. 1992. A supplement to the *Ornithological Gazetteer of Brazil.* São Paulo: Museu de Zoologia da Universidade de São Paulo, 252 pp.

Voigt, F[riedrich] S[iegmund]. 1832. Das Thierreich, geordnet nach seiner Organisation. Als Grundlage der Naturgeschichte der Thiere und Einleitung in die vergleichenden Anatomie. Vom Baron von Cuvier.... Nach der zweiten, vermehrten Ausgabe übersetzt und durch Zusätze erveïert von F.S. Voigt. Zweiter Band, die Reptilien und Fische enthaltend. Leipzig: Brockhaus, xvi + 539 pp. [reptiles and amphibians, pp. 1–179].

Wagler, Johann Georg. 1824. Serpentum brasiliensium species novae ou histoire naturelle des espèces nouvelles de serpens, recueilles et observées pendant le voyage dans l'intérieur du Brésil dans les années 1817, 1818, 1819, 1820,... , publiée par Jean de Spix,...écrite d'après les notes du voyageur par Jean Wagler. Munich: F.S. Hübschmann, viii, 75 pp. + 1 unnumbered errata page + 26 colored pls.

Wagler, Johann Georg. 1833. Deutung die in Seba's Thesauro Rerum Naturalium T. 1. et 2. enthaltenen Abbildungen von Lurchen, mit kritische Bemerkungen. Isis 9: 896–905.

Wied, Karl Viktor Prinz zu. 1952. Maximilian of Wied. A biographical survey. Proceedings of the

30th International Congress of Americanists, held at Cambridge, pp. 193–194.

Wied, Karl Viktor Prinz zu. 1954. Maximilian Prinz zu Wied, sein Leben und seine Reisen. *In* J. Röder, and H. Trimborn (editors), Maximilian Prinz zu Wied, Unveröffentliche Bilder und Handschriften zur Völkerkunde Brasiliens. Bonn: Ferd. Dümmler, 13–25.

Wied, Maximilian Prinz zu. 1820–1821. Reise nach Brasilien in den Jahren 1815 bis 1817 von Maximilian Prinz zu Wied-Neuwied. Frankfurt am Main: Heinrich Ludwig Brönner, 2 vols. **Vol. 1 (1820a):** xxxiv (list of subscribers), 1 unnumbered page (contents), 380 pp. illus. with 11 unnumbered vignette pls., 3 unnumbered large pls. (index of 14 large plates and 2 maps accompanying vol. 1, index of vignette pls., commentary, and errata). **Vol. 2 (1821):** xviii (list of subscribers and contents), 345 pp. illus. with 8 unnumbered vignette pls., 1 unnumbered page (errata). [For facsimile reprint, see Wied, 2001.].

Wied, Maximilian Prinz zu. 1820b. Travels in Brazil in the years 1815, 1816, and 1817. By Prince Maximilian, of Wied-Neuwied. Translated from the German and illustrated with plates. London: printed for H. Colburn (S. & R. Bentley), x, 335 pp. + 6 leaves of plates (1 folded), map, 28 cm. [partial vol 1, no more published?].

[Wied, Maximilian Prinz zu] Prince Maximilian Nuedwied [sic]. 1820c. Travels in Brazil, in 1815, 1816, and 1817. Translated from the German and illustrated with engravings. London: Sir Richard Phillips and Co., iv, 112 pp. + 9 engravings (3 folding), 21.5 cm [partial vol. 1; no more published?].

Wied, Maximilian Prinz zu. 1821? ("1820"). Ueber die Cobra Coral oder Cobra Coraës der Brasilianer von Maximilian, Prinzen zu Wied-Neuwied. [Nova] Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum 10 (1): 105–110 + color pl. 4.

Wied, Maximilian Prinz zu. 1822–1831. Abbildungen zur Naturgeschichte Brasiliens, herausgegeben von Maximilian, Prinzen von Wied-Neuwied. Weimar: Im Verlage des Grossherzogl. Sächs. priv. Landes-Industrie-Comptoirs. Recueil des Planches coloriées d'Animaux du Brésil, publié par S.A.S. le Prince Maximilien de Wied-Neuwied. Weimar: au Bureau d'Industrie. [90 unnumbered folio pls. (most colored) in 15 Lieferungen/livraisons of 6 pls. each. Text in German and French. Dates: Lief. 1, 1822; Lief. 2–4, 1823; Lief. 5–8, 1824; Lief. 9, 1825; Lief. 10–11, 1827; Lief. 12, 1828; Lief. 13, 1829; Lief. 14, 1830; Lief. 15, 1831.].

[Wied, Maximilian Prinz zu]. 1824. Verzeichniss der Amphibien, welche im zweyten Bande der Naturgeschichte Brasiliens vom Prinz Max von Neuwied werden beschrieben werden. (Nach Merrems Versuch eines System der Amphibien). Isis von Oken 14 (6): columns 661–673. [title probably provided by Oken; a synopsis not of the "zweyten Bande" but of the first vol. of the *Beiträge zur Naturgeschichte*....]

Wied, Maximilian Prinz zu. 1825a. Beiträge zur Naturgeschichte von Brasilien, von Maximilian, Prinzen zu Wied. Weimar: Landes-Industrie-Comptoirs. Vol. 1 [Amphibien] (1825), xxii, 614 pp. + 3 pls. [3 vols. of the *Beiträge* 1825–1833 were published, including mammals in vol. 2 and birds in 2 parts of vol. 3; some additional herpetological commentary appears in vol. 2: 605–609 and vol. 3: 1263–1265.].

Wied, Maximilian Prinz zu. 1825b. Über Coluber lichtensteinii, eine neue brasilianische Natter-Art. Von Maximilian, Prinzen zu Wied. [Nova] Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum 12 (2): 491–502 + color pl. 46.

Wied, Maximilian Prinz zu. 1828. Über den Quetz Paleo des Seba oder Merrems *Uromastyx cyclurus*. [Nova] Acta Physico-Medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum 14 (1): 127–136 + color pl. 15.

Wied, Maximilian Prinz zu. 1838–1841 ["1839–1841"]. Reise in das innere Nord-America in den Jahren 1832 bis 1834 von Maximilian Prinz zu Wied. Mit 48 Kupfern, 33 Vignetten, vielen Holzschnitten und einer Charte. Coblenz: J. Hoelscher, 2 vols. + pls., folding map. Vol. 1: 1839, xvi, 653, [1] pp. Vol. 2: 1841, xxii, 686. [i] pp.

Wied, Maximilian Prinz zu. 1850. Brasilien, Nachträge, Berichtigungen und Zusätze zu der Beschreibung meiner Reise im östlichen Brasilien. Frankfurt am Main: Ludwig Brönner, [iv], 144 pp.

Wied, Maximilian Prinz zu. 1865. Verzeichniss der Reptilian, welche auf einer Reise im nördlichen America beobachet wurden. Dresden: E. Blochmann. [= Novorum Actorum Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum vol. 32, pt. 1, no. 8]: viii, 141 pp., 1 ff. + 7 colored pls. [journal articles independently paged in this vol. of *Nova/Acta*, and indistinguishable from "separates"].

Wied, Maximilian Prinz zu. 1976. People of the first man: life among the Plains Indians in their final days of glory: the firsthand account of Prince Maximilian's expedition up the Missouri River, 1833–34, edited and designed by Davis Thomas and Karin Ronnefeldt; watercolors by Karl Bodmer. New York: Dutton, 256 pp., illus.

Wied, Maximilian Prinz zu. 2001. Facsimile reprint of Wied, 1820–1821: *Reise nach Brasilien in den Jahren 1815 bis 1817 von Maximilian Prinz zu Wied-Neuwied.* With a forward by Hermann Josef Roth (editor). St Augustin, Germany: Gardez! Verlag, 2 vols.

Wied, Maximilian Prinz zu. 2008–2012. The North American journals of Prince Maximilian of Wied. Translation of *Tagebuch einer Reise nach dem nördlichen America in den Jahren 1832, 1833, und 1834,* the manuscript of which was never published before in its entirety. Edited by S.S. Witte and M.V. Gallagher; translated by W.J. Orr, P. Schach, and D. Karch. Norman: University of Oklahoma Press. **Vol. 1. 2008** (May 1832–April 1833). **Vol. 2. 2010** (April–September 1833). **Vol. 3. 2012** (September 1833–August 1834).

Wiest, John Alton, Jr. 1978. Revision of the Neotropical snake genus *Chironius* Fitzinger (Serpentes, Colubridae). Ph.D. dissertation, Texas A & M Univ., xv + 370 pp.

Wirgen, Philipp. 1867. Zum Andenken an Prinz Maximilian zu Wied, sein Leben und wissenschaftliche Tätigkeit. Neuwied: Heuser.

Wood, Casey A. 1931. An introduction to the literature of vertebrate zoology, based chiefly on the titles in the Blacker Library of Zoology, the Emma Shearer Wood Library of Ornithology, the Bibliotheca Oslernia, and other libraries of McGill University, Montrea. London: Oxford University Press, frontisp., xix, 643 pp.

PLATES

The Abbildungen Zur Naturgeschichte Brasiliens Plates

In the years 1822 to 1831 Wied published *Abbildungen zur Naturgeschichte Brasiliens* to accompany his *Beiträge zur Naturgeschichte von Brasilien* ("Contributions to the natural history of Brazil"); these *Abbildungen* ("illustrations") were comprised of 90 plates of Brazilian mammals, birds, reptiles, and amphibians in 15 issues (Lieferungen) of six *unnumbered* folio plates each. They are extremely rare since only 300 copies were printed of each plate, some of which have been lost before final binding of copies in libraries.

The folio plates of the *Abbildungen* are so important, and so difficult of access, that the herpetology plates are reproduced here, resized to fit the smaller journal format. They are arbitrarily assigned plate numbers 1–56 in order to follow the organization of the present work and also the order of species presentation in the companion volume, the *Beiträge*.

Species names are as used by Wied. For current name see Present Status under each species account.

In the 1825 *Beiträge*, Wied frequently made reference to *Abbildungen* plates prior to their publication. Inasmuch as some of his new species names are based on the unnumbered plates, dates of publication are extremely important; see page 19 for accepted dates of publication and a listing of the Lieferungen containing plates with reptiles and amphibians. Not all species summarized in the *Beiträge* are represented in the *Abbildungen*.

The reprinted color plates are mostly from copies of the *Abbildungen zur Naturgeschichte Brasiliens* in the Rare Book Collection of the American Museum of Natural History. Two plates lacking in the AMNH collection (*Coluber acuminatus* and *Coluber lichtensteinii*) are from the library of the Museu de Zoologia da Universidade de São Paulo. The reprinted plates vary greatly in quality. Plates in the AMNH copies of the *Abbildungen* were not bound with protective interleaving and often show a faint transfer of print from a facing page of text; penciled annotations include a number that reflects the order in which the plates (mammals, birds, reptiles, and amphibians) are bound in the AMNH copy. No attempt was made to enhance artwork by removing such extraneous markings.

Each group of *Abbildungen* color plates was accompanied by a single folio page of descriptive text printed by letterpress. The collected pages of descriptive text are bound together with the AMNH color plates —with the letterpress printing facing a color plate (thereby contributing to transfer of printing ink onto the plates). The text is bilingual and gives the names of the included species and their geographic origins. Occasionally some item of taxonomic value appears. If there are differences between the German and French texts, we shall comment only on the former (which always appears first and is generally given priority in matters involving the *Abbildungen*). A few comments are appended to the captions following. The descriptive texts could not be reprinted herein, but will become freely available as a portable document format (PDF) file [doi://dx.doi.org/10.5531/sd.sp.9].

Plate 1. *Emys depressa* (Wied). (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 9, 1825.) See also plate 2.

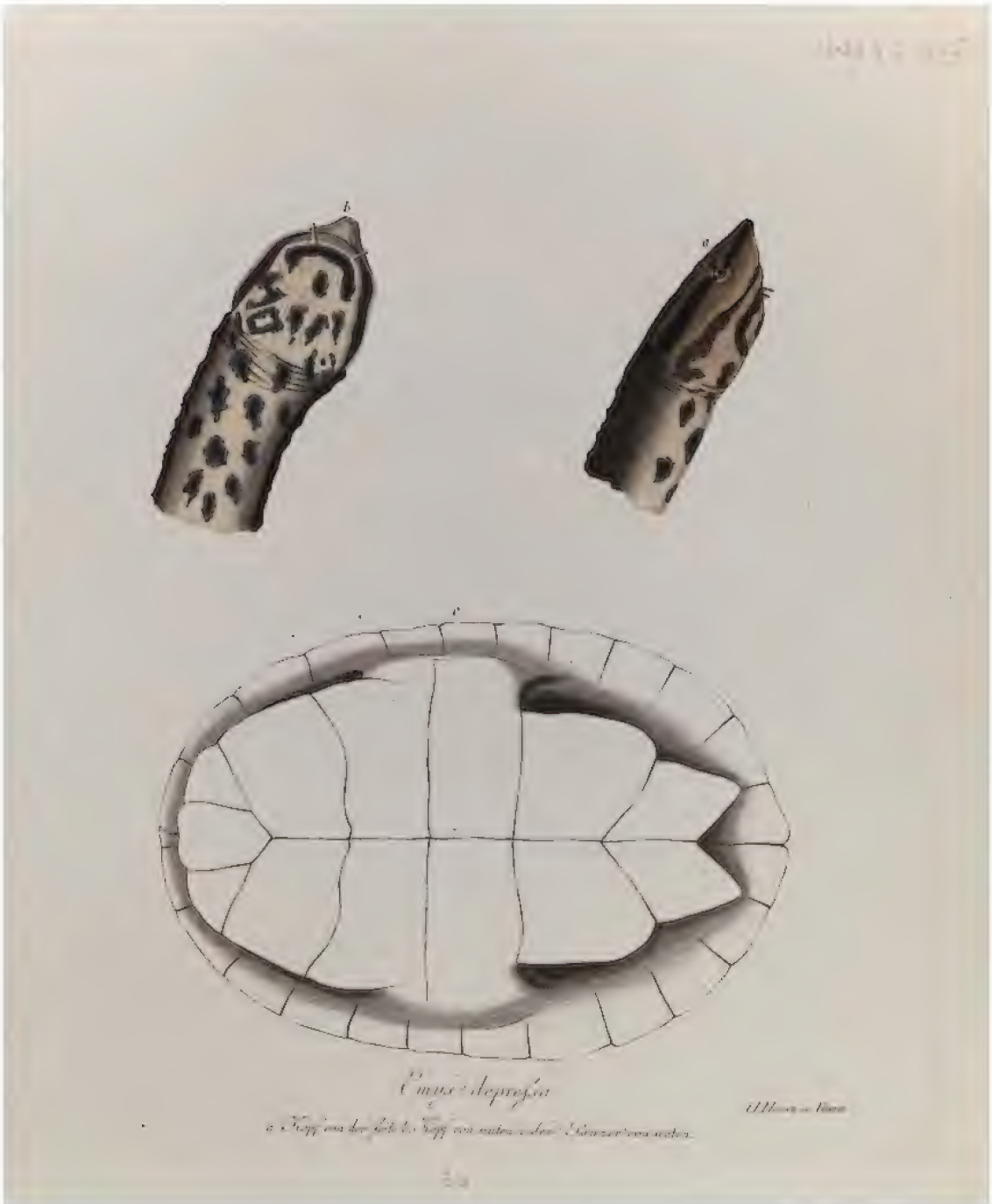


Plate 2. *Emys depressa* (Wied). (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 9, 21825.) See also plate 1.

Plate 3. *Emys radiolata* Mikan. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 12, 1828.) See also plate 4.

Plate 4. *Emys radiolata* Mikan. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 12, 1828.) See also plate 3.

Plate 5. *Testudo tabulata*, Linnaeus. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 5, 1824.) See also plate 6.

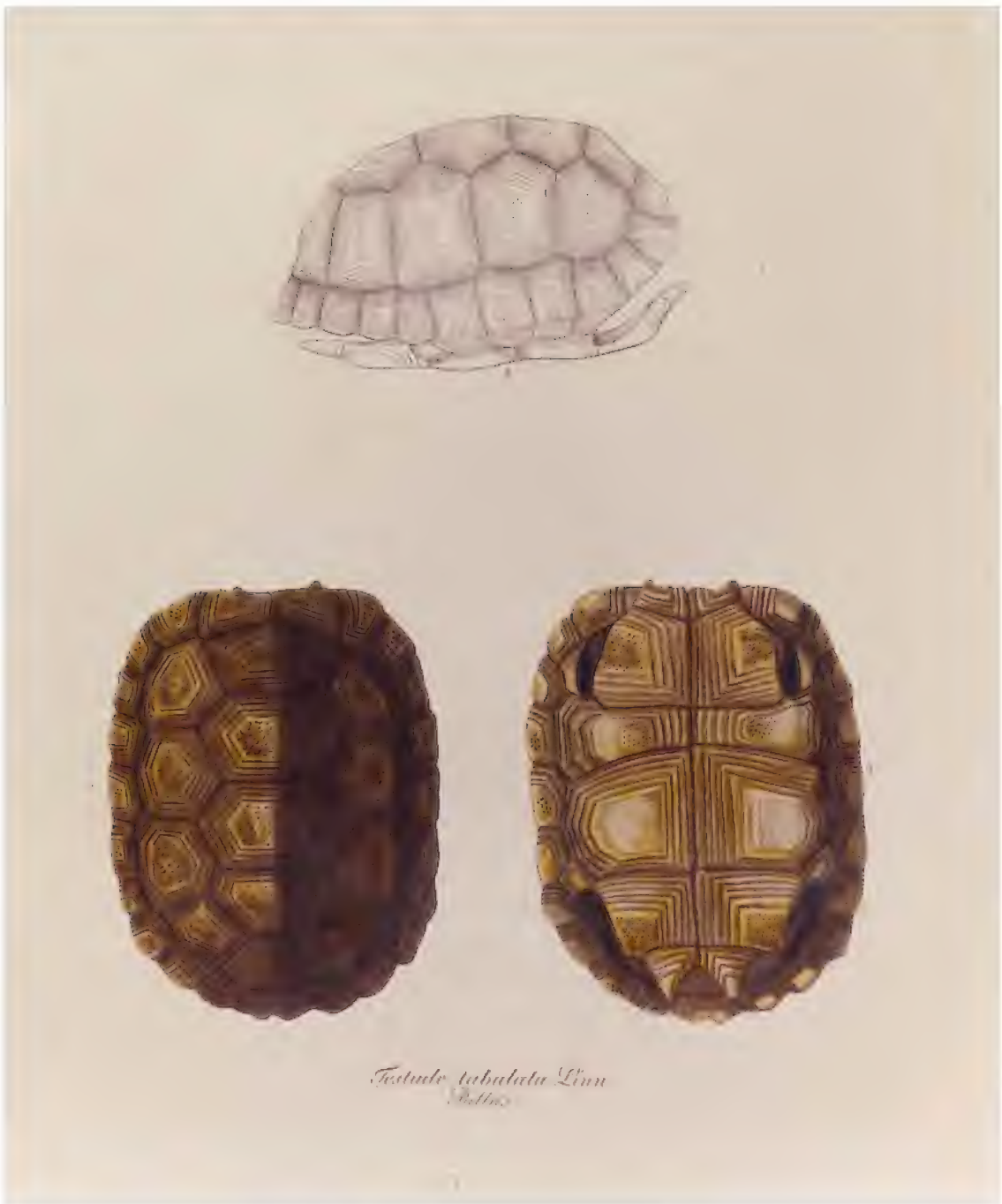


Plate 6. *Testudo tabulata*, Linnaeus. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 12 [juvenile], 1828.) See also plate 5.

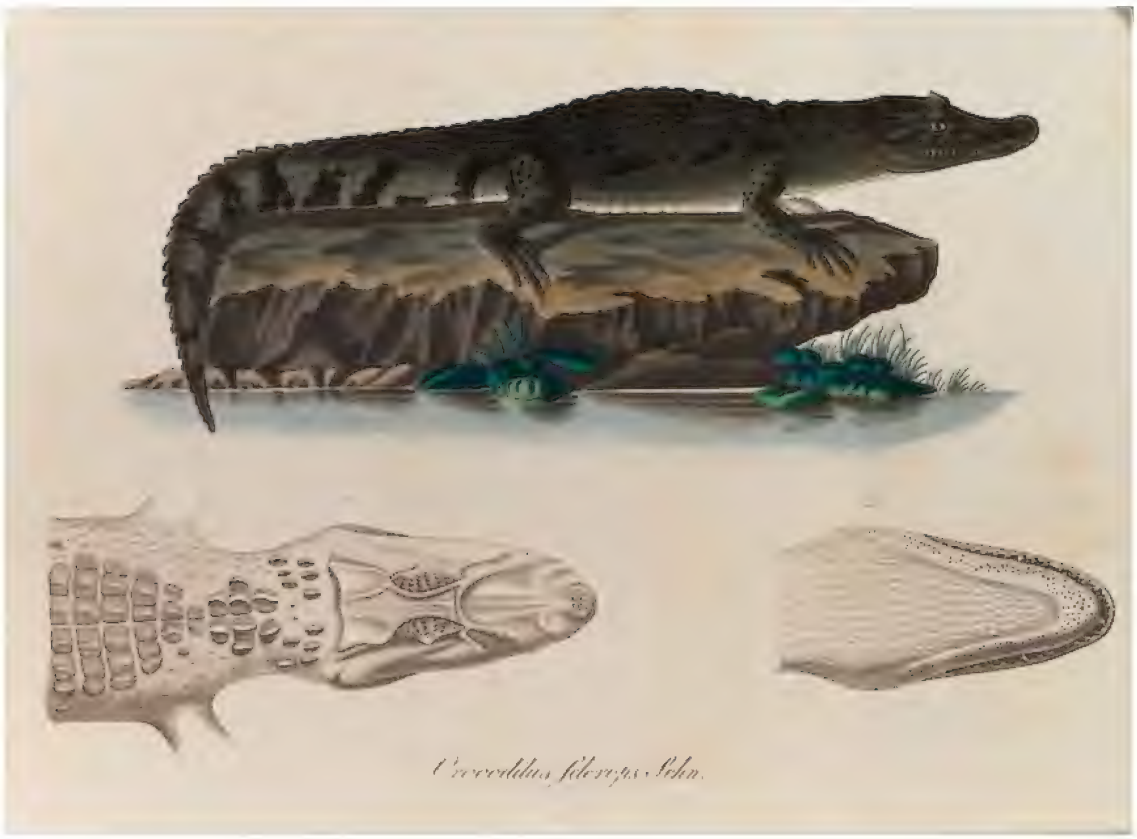


Plate 7. *Crocodilus sclerops* Schneider. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 12, 1828.)

Plate 8. 1. *Polychrus marmoratus, Merrem.* 2. *Gekko incanescens Wied.* 3–6. *Gekko armatus Wied.* (*Abbildungen zur Naturgeschichte Brasiliens:* Lieferung 13, 1829.)

Plate 9. (*top*) *Anolis gracilis* Wied. (*bottom*) *Anolis viridis* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 6, 1824.)

Plate 10. *Agama picta* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 3, 1823.)

Plate 11. *Agama catenata* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 15, 1824.)

Plate 12. *Stellio torquatus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 6, 1824.) [= *Tropidurus torquatus* (Wied). The new genus *Tropidurus* is formally and effectively diagnosed in the descriptive text accompanying the *Abbildung* plate. The date is 1824; in the same year a diagnosis of the genus and species was published in *Isis*.]

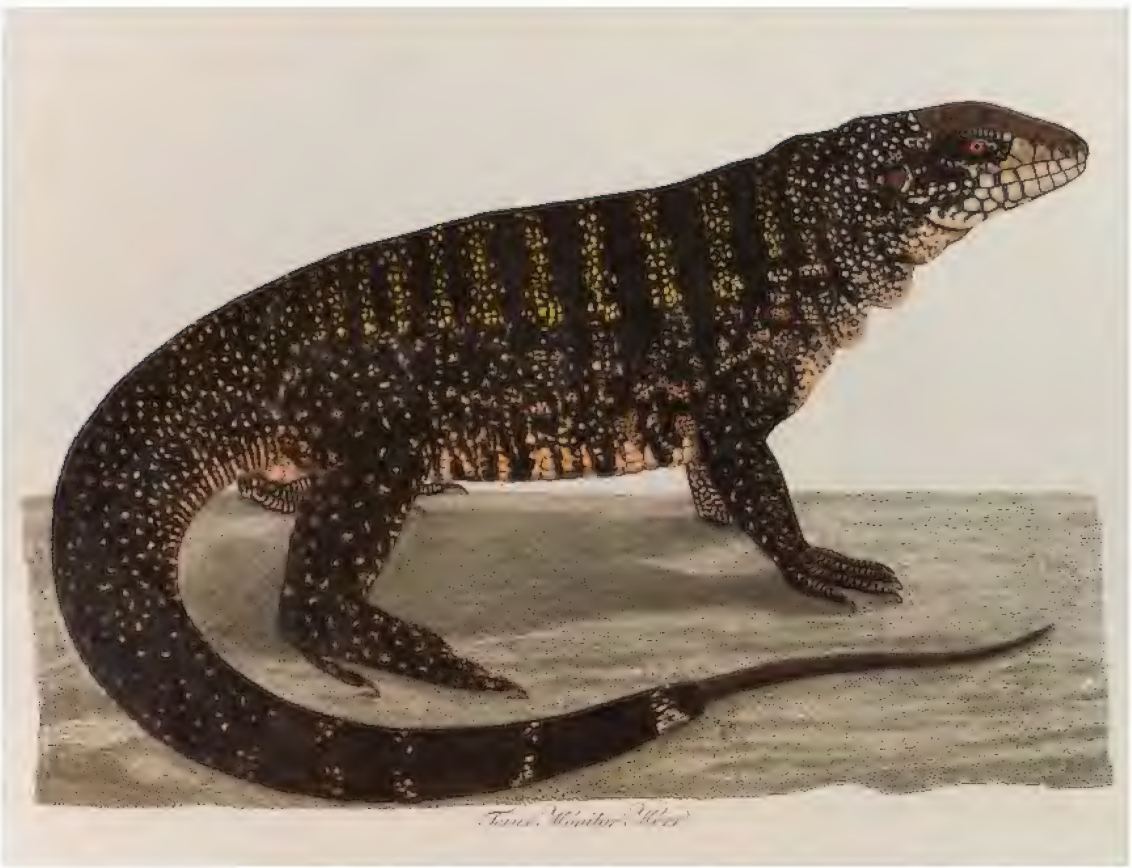


Plate 13. *Teius monitor*, Merrem. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 11, 1827.) See also plate 14.

Plate 14. *Teius monitor*, Merrem. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 11, 1827.) See also plate 13.

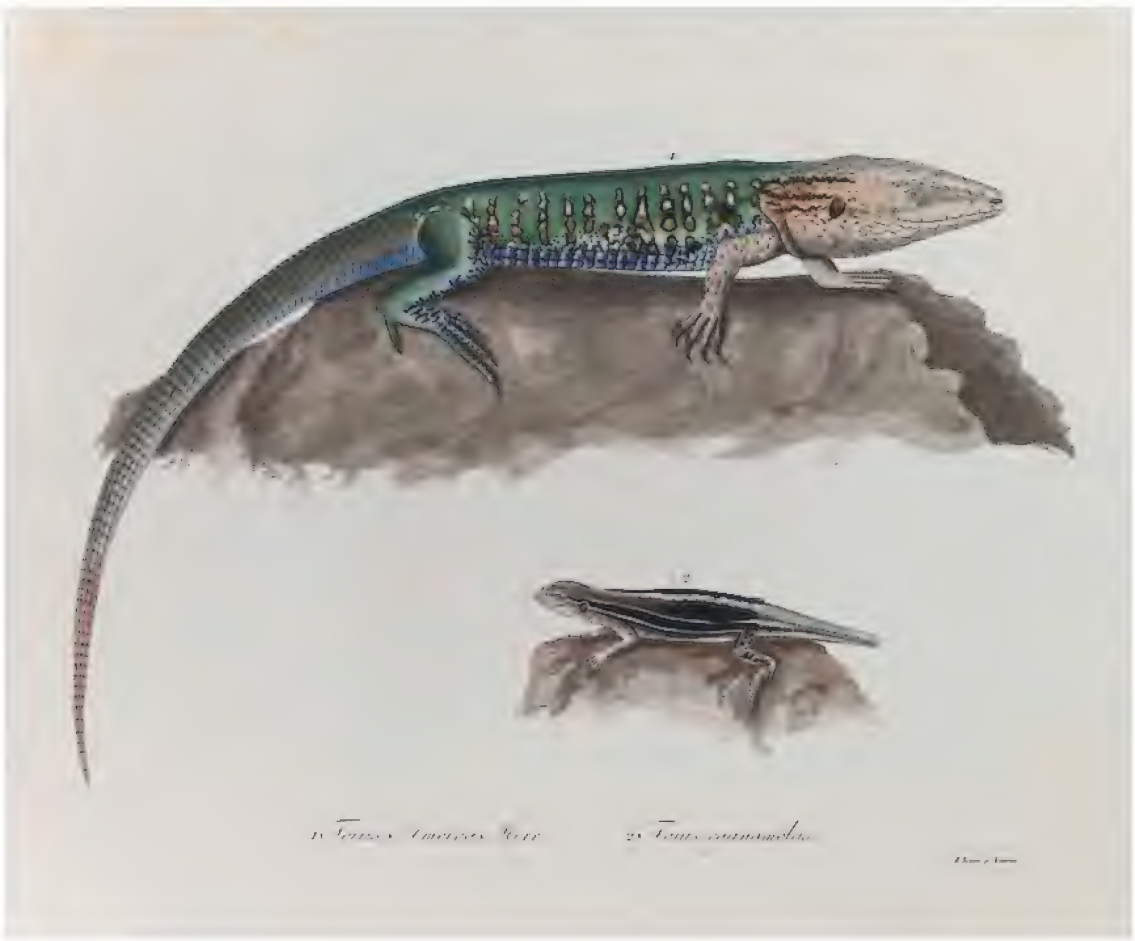


Plate 15. 1 *(top)*. *Teius ameiva*, Merrem. 2 (*bottom*). *Teius cyanomelas* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 5, 1824.)

Plate 16. *Lacerta striata* Daudin. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 13, 1829.)

Plate 17. *(top) Gymnophthalmus quadrilineatus*, Merrem. (*bottom*) *Scincus sloanei* Daudin. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 13, 1829.)

Plate 18. *Boa cenchria* Linnaeus. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 6, 1824.)

Plate 19. *Boa aquatica* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 2, 1823.)

Plate 20. *Scytale coronata*, Merrem. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 7, 1824.)

Plate 21. *Coluber poecilostoma* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 10, 1827.) See also plate 22.

Plate 22. *Coluber poecilostoma* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 10, 1827.) See also plate 21.

Plate 23. *Coluber liocercus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 14, 1830.)

Plate 24. 1–2. *Coluber undulatus* Wied. 3–6. *Coluber variabilis* Kuhl. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 14, 1830.)

Plate 25. *Coluber nattereri* Mikan. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 14, 1830.)

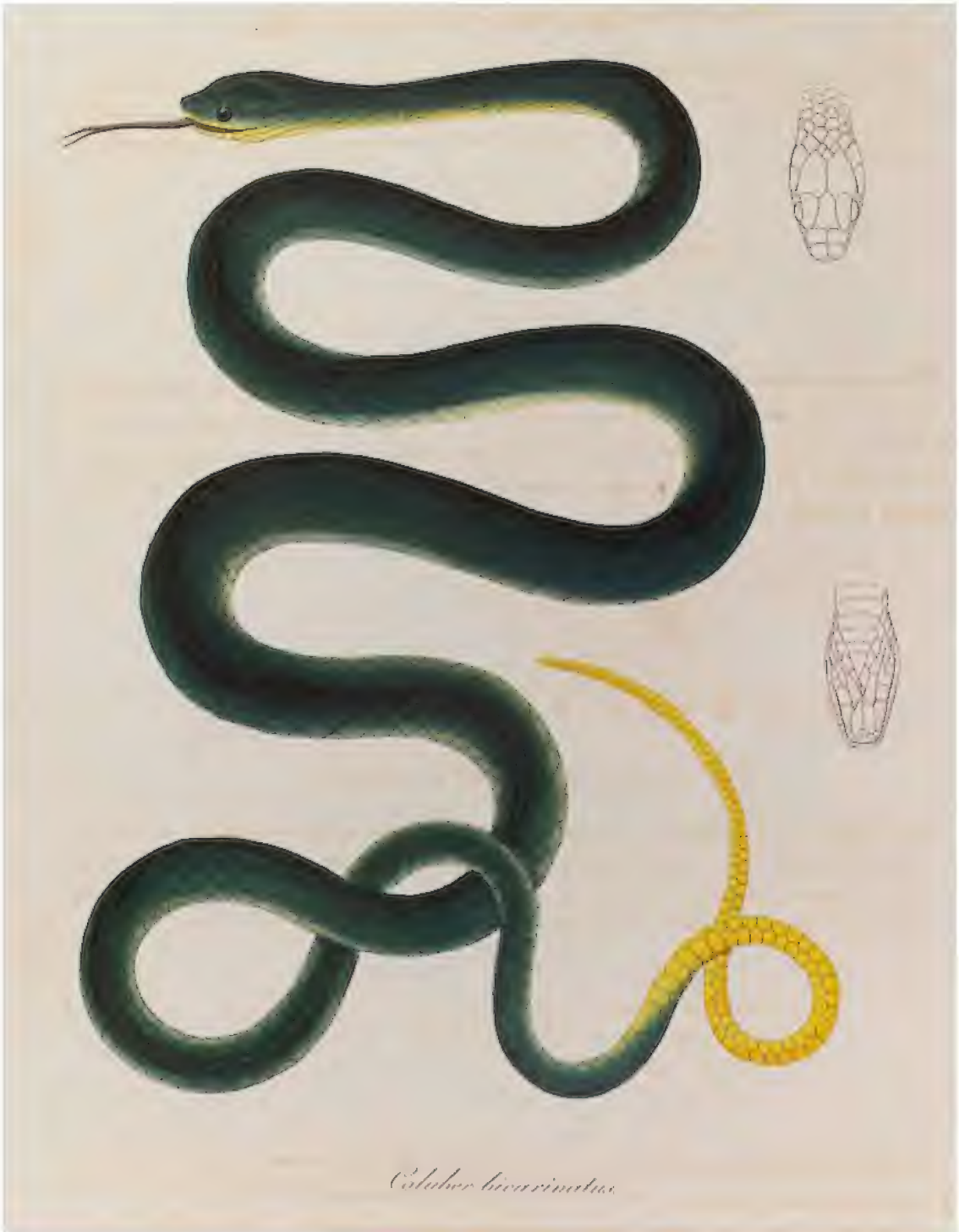


Plate 26. *Coluber bicarinatus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 8, 1824.)

Plate 27. *Coluber pyrrhopogon* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 9, 1825.)

Plate 28. *Coluber carinicaudus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 11, 1827.)

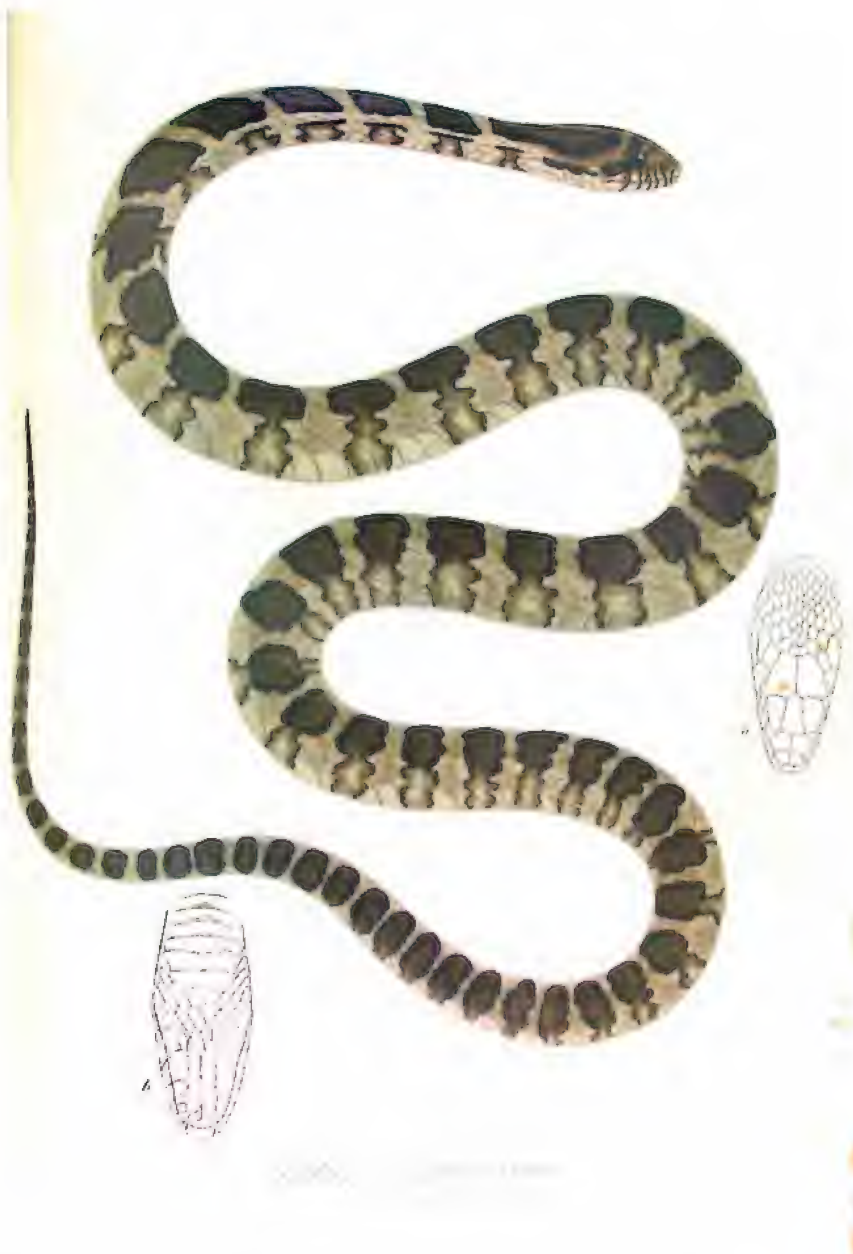


Plate 29. *Coluber lichtensteinii* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 15, 1831.) This image, a mirror image of the original painting (reproduced in Bosch, 1991: 256), is based on AMNH R-3514 (lectotype). (Courtesy of Museu de Zoologia da Universidade de São Paulo.)

Plate 30. *Coluber plumbeus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 13, 1829.)

Plate 31. *Coluber acuminatus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 14, 1830. (Courtesy of Museu de Zoologia da Universidade de São Paulo.)

Plate 32. 1 (*top*). *Coluber merremii* Wied. 2 (*middle*). *Coluber poecilogyrus* Wied (see also pl. 33). 3 (*bottom*). *Coluber doliatus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 8, 1824.)

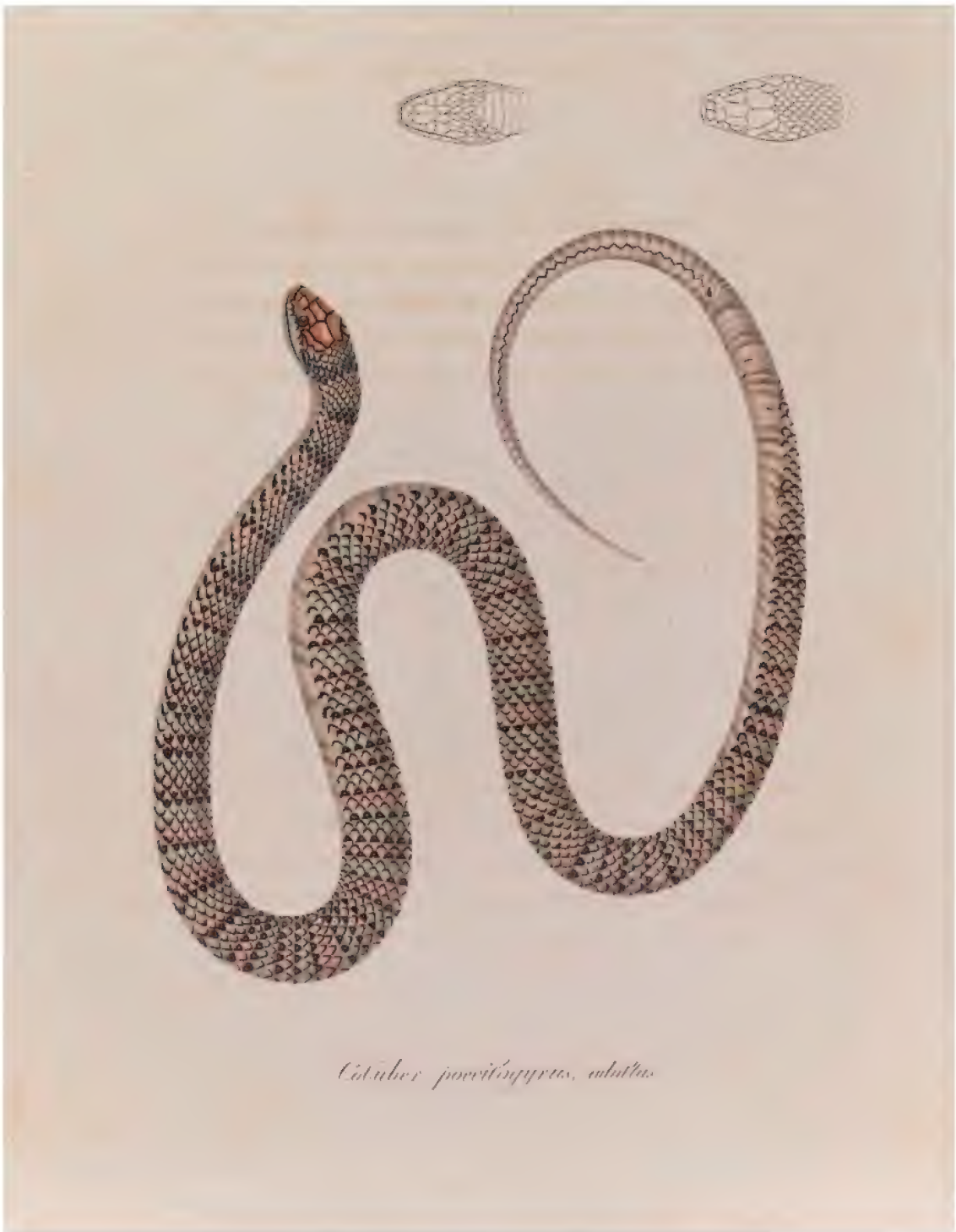


Plate 33. *Coluber poecilogyrus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 8, 1824.) See also plate 32.

Plate 34. *Coluber pileatus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 8, 1824.)

Plate 35. *Coluber rabdocephalus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 10, 1827.) See also plate 36.

Plate 36. *Coluber rabdocephalus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 10, 1827.) See also plate 35.

Plate 37. *Coluber formosus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 1, 1822.)

Plate 38. *Coluber venustissimus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 1, 1822.) See also plate 39.

Plate 39. *Coluber venustissimus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 7, 1824.) See also plate 38.

Plate 40. *Elaps corallinus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 6, 1824.)

Plate 41. *Elaps marcgravii* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 3, 1823.)

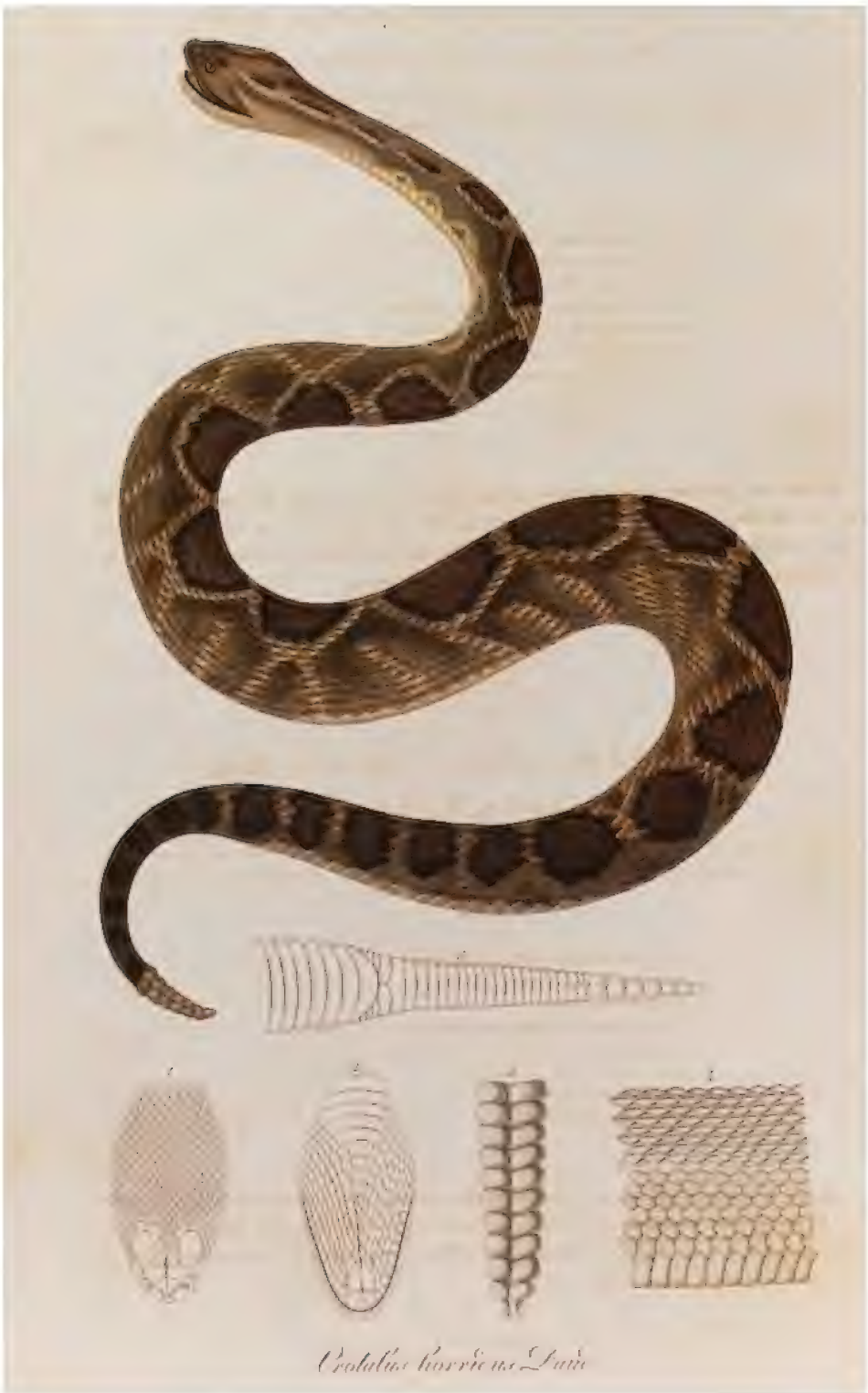


Plate 42. *Crotalus horridus*, Daudin. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 11, 1827.)

Plate 43. *Lachesis rhombeata* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 5, 1824.) See also plate 44.

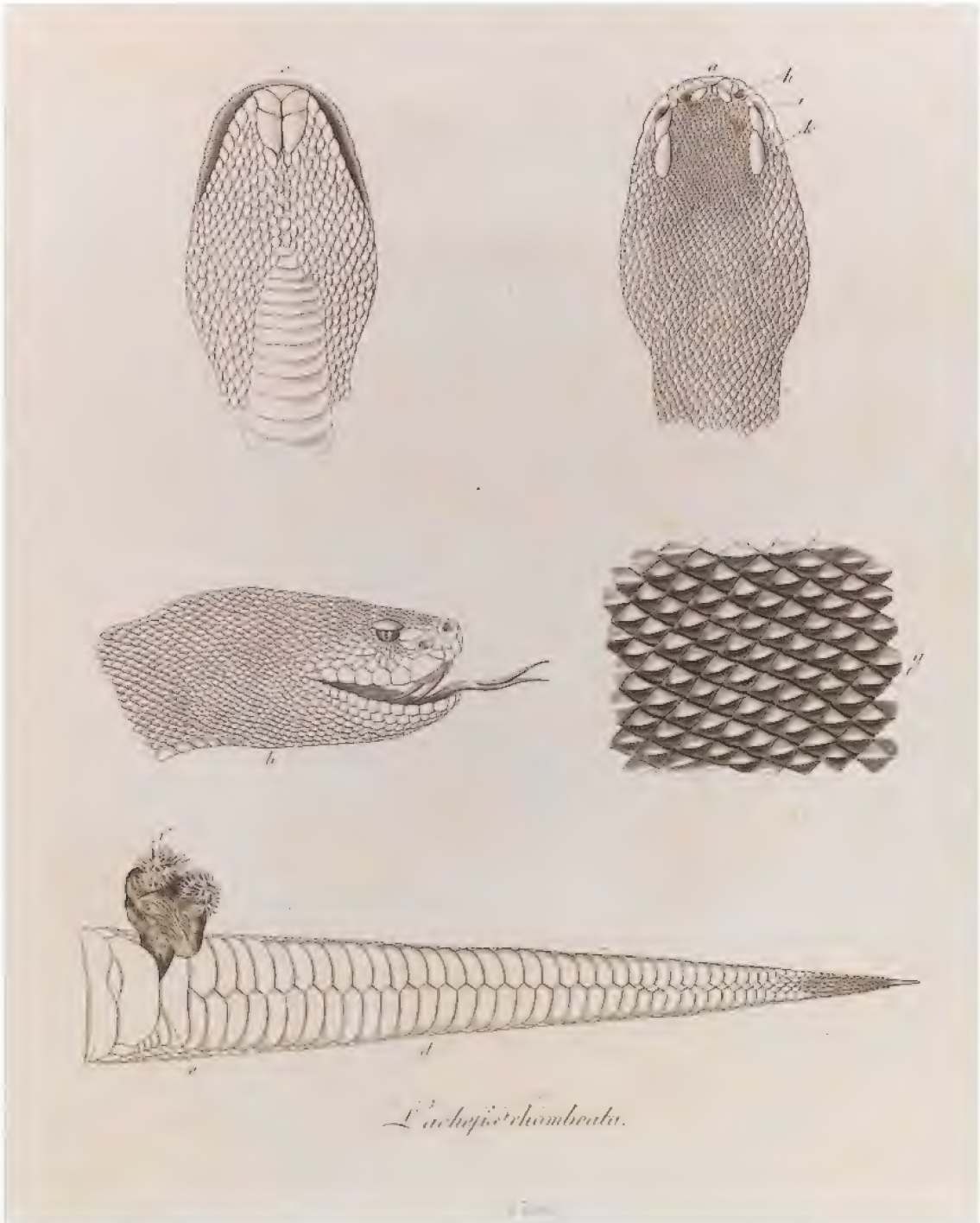


Plate 44. *Lachesis rhombeata* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 5, 1824) See also plate 43.

Plate 45. *Cophias atrox* Merr. [*Cophias jararaca* Wied]. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 7, 1824.) See also plate 46 (Lieferung 8).

Plate 46. *Cophias jararaca* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 8, 1824.) See also plate 45 (Lieferung 7).

Plate 47. *Cophias bilineatus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 5, 1824.)

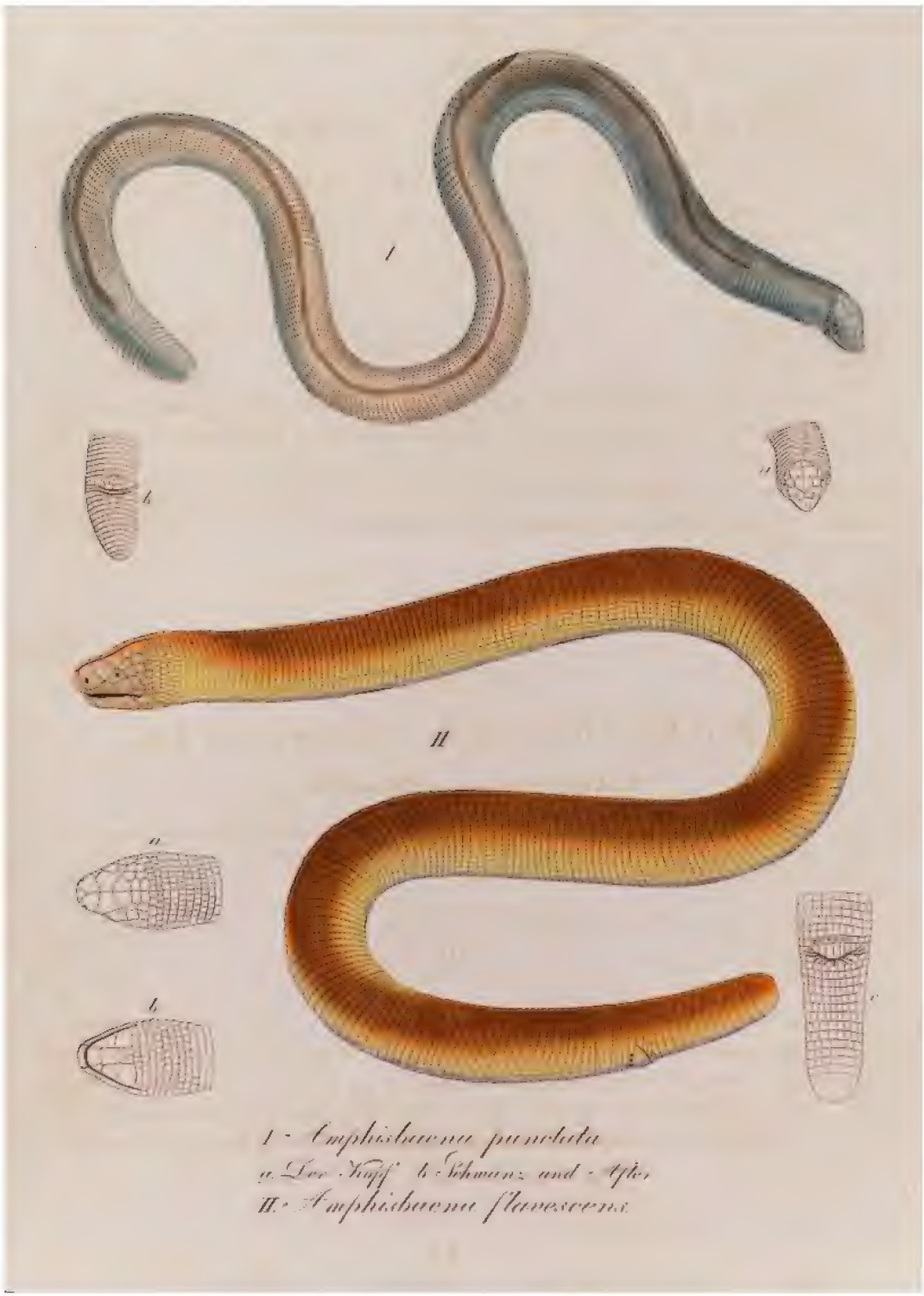


Plate 48. 1 (*top*). *Amphisbaena punctata* Wied. 2 (*bottom*). *Amphisbaena flavescens* Wied (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 9, 1825.)

Plate 49. 1–2 (*top, middle*). *Hyla faber* Wied. 3 (*bottom*). *Hyla punctata* Wied (non Schneider, 1799), replacement name = *Hyla infulata* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 7, 1824.)

Plate 50. 1 (*top*). *Hyla crepitans* Wied. 2 (*bottom*). *Hyla*/*Rana sibilatrix* Wied. The text on the plate was evidently corrected subsequent to the original design. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 8, 1824.)

Plate 51. 1 (*top*). *Hyla elegans* Wied. 2 (*middle*). *Hyla luteola* Wied. 3 (*bottom*). *Hyla aurata* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 7, 1824.)

Plate 52. *Bufo agua* Daudin. Male and female. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 7, 1824.)

Plate 53. 1 (*top*). *Ceratophrys dorsata* Wied (see also pl. 55). 2–3 (*lower pair*). *Bufo ornatus* Spix (including "*Oxyrynchus* Spixii"). (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 11, 1827.)

Plate 54. *Bufo cinctus* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 3, 1823.)

Plate 55. *Ceratophrys dorsata* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 10, 1827.) See also plate 53.

Plate 56. *Ceratophrys boiei* Wied. (*Abbildungen zur Naturgeschichte Brasiliens*: Lieferung 13, 1829.)